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Analysis of responses to the Consultation on Local Food for Everyone

AGRICULTURE, ENVIRONMENT AND MARINE

social research

Analysis of Responses to the Consultation on Local Food for Everyone

Why Research, March 2022

Acknowledgments
Thanks to the individuals and organisations who responded to the consultation and to all at the Scottish Government who provided input and offered advice as required.

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Executive Summary

The 2021 SNP manifesto included a focus on the ‘Right to Food’ which included actions under ‘Eat Healthy; Eat Local’. This included *“produce(ing) a local food strategy which supports locally based production and circular supply chains, cutting food miles and enabling more people to enjoy food grown locally”*.

While the COVID-19 pandemic has had an impact over the last two years, some of this impact has been positive in that there have been some innovative developments within the food and drink sector, although a key issue is whether all these developments will be sustainable in the longer term. Most recently, the Good Food Nation Bill was introduced in October 2021 and lays the foundation for Scotland to become a Good Food Nation where people from all walks of life take pride and pleasure from the food they produce, buy, cook and eat.

In August 2021, the Scottish Government published its ‘Local Food for everyone: a discussion’. This document set out a comprehensive programme of actions the Scottish Government are taking to support local food as well as asking for views on what more could be done to create a future where all can enjoy locally produced food.

Respondent Profile

Written consultation responses

A total of 298 responses were received; 81 from organisations and 217 from individuals.

The largest organisation sub-groups with 17 respondents were campaign / advocacy or representative bodies, followed by food / food retail / producer / distributor (9 respondents) and community interest / social enterprise (7 respondents).

Consultation engagement programme

A series of 18 tailored workshops were held during October and November 2021, to provide an opportunity for further input on the Local Food Strategy in addition to written responses. A total of 297 participants attended these workshops, which were designed and co-ordinated by Nourish Scotland in partnership with Scotland’s Sustainable Food Places food partnerships network and the Scottish Government.

Workshops also took place for Scotland’s **Sustainable Food Places** regional coordinators (29th October), **Nourish Scotland members** (12th October) and also for the **‘Good Food’ in Scottish Schools Working Group** looking at the provision of universal free school meals (25th October) including members from ADES Resources Network, APSE, Argyll & Bute Council, ASSIST FM, Brakes Scotland, COSLA, East Ayrshire Council, Edinburgh City Council, Health and Social Care Alliance Scotland, North Ayrshire Council, Nourish Scotland, Scotland Excel, South

Lanarkshire Council, STUC, Sustain, Sustainable Food Places, The Food Foundation, The Soil Association Scotland, The University of Edinburgh Business School and Zero Waste Scotland. The latter two workshops also resulted in the submission of written consultation responses.

Comments arising from the workshops and consultation responses covered the same issues, so the findings from both are reported together.

Key Themes

A number of key themes were evident across questions as well as across respondent groups. While there was overall support for local food for everyone, respondents identified a number of barriers to be overcome in order to achieve this aim. These included a need for:

- A suitable infrastructure and short supply chains.
- Local food to be affordable and accessible to all, with a Right to Food embodied in local food policies. It was felt by some that the pandemic has served to expose dysfunctions in the current food system.
- More land to be made available and accessible for those who wish to enter the market.
- Financial support and investment, including agricultural subsidy reform.
- Changes to procurement processes and the introduction of Dynamic Purchasing Systems; extending public sector procurement for local food to all publicly-owned settings; also for central and local government to set an example by ensuring local food is procured.
- A comprehensive, holistic and interdisciplinary approach across all relevant policy areas, particularly in relation to the environment; and policy interventions as aids for prioritising local food.
- Higher levels of partnership working and cooperation.
- Clear food labelling, for example, using a traffic light system for CO_2 emissions, so that the provenance of food is highlighted and consumers can identify food that is truly local.
- A clear definition of 'sustainable'.
- Education and awareness raising of the benefits of local food as well as encouraging consumers to eat seasonal food.
- Reductions in food waste and use of packaging.

While a number of respondents cited examples of some schools, hospitals or other public institutions that provide access to local food, in general, it was felt that a far greater number of public institutions could do more to purchase local food.

A wide range of schemes and initiatives were cited by respondents as being part of the movement towards local food, although most appear to be on a localised level and use of these schemes appears to be inconsistent.

Vertical farming was seen as needing further research and support, though some respondents saw an advantage in improved food security. High start-up costs, limitations in crop variety, sustainability concerns and concerns about a lack of benefits accruing to local communities were the foremost issues identified. A majority of respondents preferred to shift the focus onto other local food solutions.

Part A – Local Food

Do you agree with the Scottish Government definition of local food as set out in the strategy? (Question 1)

The majority of those who responded to this question agreed with the Scottish Government definition of local food and many comments reflected points raised in the consultation paper. There were some requests for more specific geographic delineation of local food although there was little consistency in views; there were also requests for a clear definition of 'sustainable'. Effective and short supply chains and the necessary infrastructure were seen as important, alongside the provision of support for local businesses. Environmental concerns were raised, along with comments of a need for an approach that links to climate change. There were also some comments on the need for clear labelling, together with suggestions for some form of traffic lighting on food labels.

Do you agree with the benefits associated with local food as set out in the strategy? (Question 2)

A majority of respondents agreed with the benefits associated with local food, and a number of comments agreed with, reiterated or expanded upon the benefits outlined in the consultation paper. A significant minority noted their support for organic or agro-ecological methods of growing or farming. A number of issues were outlined by respondents; these included the need for behavioural change, a need for government or local authority support, and the affordability, accessibility and pricing of local food. There were also some concerns that the descriptions provided in the consultation paper were unrealistic. Some policy interventions were suggested for ways in which local food could be prioritised.

Are you aware of any disadvantages of local food? (Question 3)

Slightly more respondents agreed there are disadvantages to local food than did not. The key theme to emerge related to local food being expensive and that it should be affordable and accessible to all. It was also felt there needs to be an acceptance of eating produce when it is in season. There were some concerns that Scottish growers will not be able to produce the range of food that individuals are used to. Again, there were references to the need for infrastructure and local supply chains and concerns that some land is not suitable for growing or that some farming techniques are not sustainable. Changes to public procurement practices were identified by some respondents.

Scottish Government Activity

Do you have any comments on the first / second / third pillar of the Scottish local government's local food strategy? (Questions 4, 5 & 6)

To a large extent, the same themes emerged across these three questions, and respondents often reiterated points made in the consultation paper. Across all three pillars, there were references to the need:

- For improved infrastructure.
- To increase awareness of local food and its benefits and value.
- For financial support and investment, including agricultural subsidy reform.
- For changes to procurement processes and the introduction of Dynamic Purchasing Systems; and extending public sector procurement for local food to all publicly-owned settings.
- For a comprehensive, holistic and interdisciplinary approach and higher levels of partnership working.

Pillar 1: The key element of importance to respondents was education. There were also calls for land reform so as to make land available to a wider range of individuals. Once again, there were also references to the need for labelling of local food.

Pillar 2: There were references to the business models of most supermarkets as being incompatible with local food strategies as well as comments that the price of local food can be too expensive for everyone.

Pillar 3: The key element was for there to be a focus on buying specified types of (healthy and beneficial) produce. There were also some comments of a need to extend this pillar, for example, to include legally binding targets or mandatory local purchasing; and concerns over the affordability of local food for all, although there were also concerns over the ability of local suppliers to meet the required capacity.

Are there any areas related to local food where Scottish Government involvement could bring further benefits or reduce disadvantages? (Question 7)

A number of responses reiterated previous points, and cited the need for support for small scale or local growers, food producers and farmers; improved infrastructure; the provision of education and the promotion of local food; and larger scale land reform. There were also comments on the need for actions to make local food accessible and affordable to those on low incomes.

The Views of Individuals

- A large majority of respondents claimed to be willing to some extent to pay more for local food (Question 8).
- A very large majority claimed to be willing to try new or different shops in order to access local food (Question 9).
- A very large majority claimed to be willing to some extent to change their diet in order to eat more local food (Question 10).
- There was widespread awareness of where to purchase local food and a high proportion of respondents claimed to be purchasing local food on at

least an occasional basis. A number of these respondents were already using local shops. However, there were some comments that local food can be expensive or that it is too far to travel to access local food (Question 11).

- A significant minority of respondents claimed it is not possible for them to buy healthy and affordable food within 20 minutes walking distance of their home (Question 12); and a significant minority of respondents claimed it is not possible for them to buy local food within 20 minutes walking distance of their home (Question 13).

Potential improvements for all to have better access to healthy, affordable and locally sourced food

Do you have any further comments on improvements that could be made to allow for everyone living in Scotland to have better access to healthy, affordable and locally sourced food? (Question 14)
A number of themes echoed those from previous questions and included a need for improved infrastructure, for increased education and awareness, for increased land for production, a food policy that is linked to social, economic and environmental policy, for increased partnership working and cooperation; and changes to procurement processes and clear labelling of all food.

Access to Food in Public Institutions

Do you think that Scotland's schools, hospitals and other public institutions provide sufficient access to healthy, locally sourced food? (Question 15)
In general, there was a lack of belief that Scotland's schools, hospitals and other public institutions provide sufficient access to healthy, locally sourced food, although there was a view that some public institutions are making an effort. Key barriers identified were cost, procurement processes and a lack of capacity for most public institutions to be able to prepare their own food.

Are you aware of any examples of schools, hospitals or other public institutions that have been particularly effective in providing healthy, locally sourced food? (Question 16)
Only a minority of respondents noted any specific examples of public institutions that have been particularly effective in providing healthy, locally sourced food. A wide range of institutions were cited, as well as some specific initiatives.

Has your attitude to local food changed at all due to the coronavirus (COVID-19) pandemic and related restrictions? (Question 17)
A majority of respondents felt their attitude to local food had changed – to some extent – due to the pandemic and related restrictions. In general, those whose attitude had changed commented on their greater use of local shops and their greater levels of resilience and flexibility compared to supermarkets; most of those whose attitude had not changed were already advocates of local food. There were some comments that the pandemic exposed dysfunctions and inequalities in the food system which will need to be overcome.

Organisations or schemes that have been particularly effective during the COVID-19 pandemic

- Almost half of respondents claimed to be aware of organisations or schemes that have been particularly effective in providing local food (Question 18).
- Half of respondents claimed to be aware of any organisations or schemes that have been particularly effective in developing a strong sense of local food culture and community (Question 19).
- Around two in five respondents were aware of any organisations or schemes that have been particularly effective in reducing the distance that food travels from being grown or produced to being eaten (Question 20).
- A similar proportion claimed to be aware of any organisations or schemes having been particularly effective in increasing the availability of locally produced food (Question 21).

Across these four questions, respondents cited a wide range of different organisations and schemes.

Part B – Vertical Farming

Have you considered using vertical farming technologies? (Question 22)
Only small numbers of respondents have considered vertical farming. A majority of respondents cited issues including a desire for other growing solutions to be prioritised, high start-up costs and use of too many (non-sustainable) resources; concerns were raised that vertical farming will only be suitable for a limited range of (non-staple) crops and will not enable positive effects of local food production such as community wealth building and a connection to the outdoors. Small numbers of respondents were either researching the topic or waiting for the technology to develop further.

What effect would increased usage of vertical farming have on food imports to Scotland? (Question 23)
A large majority of respondents thought increased usage of vertical farming would reduce food imports, albeit many thought this would apply to a restricted variety of crops. Respondents perceived an increase in home grown food production resulting in improved food security, but also said vertical farming would be most useful when complementing other farming methods. Concerns about sustainability and a desire for the focus to be on sustainable farming methods were reiterated.

Would vertical farming cause an increase, decrease or have no effect on the following concerns compared with conventional production? (Question 24)
A large majority of respondents thought that vertical farming would cause an increase in electricity usage (for lighting / heating / automation), freshness of produce (depending on the time between production and consumption) and cost of production (specifically start-up costs). A decrease was foreseen in emissions from transportation (less transport from abroad), pesticide and fertiliser usage (growing in a sterile environment), and land use (smaller areas used for growing). Opinions were split regarding water usage, packaging, labour requirements and seasonality of produce.

What barriers do you see to the uptake of vertical farming in Scotland? (Question 25)

The main barriers to vertical farming uptake were foreseen to be capital expenditure costs (high initial outlays), lack of knowledge or skill in vertical farming techniques, lack of awareness of vertical farming techniques (in both cases a need for upskilling) and the economic return or cost per unit being too high (high outlays, and ongoing power, irrigation and technology costs). Queries were raised concerning the usefulness of vertical farming to the environment, benefits only accruing to large producers rather than to local communities, and the uncertain nutritional value of produce; the need for further research and support was reiterated.

Are you aware of any other technologies, other than vertical farming, which would help Scotland produce more of its own food? (Question 26)

Glasshouse technology (particularly when used in conjunction with renewable energy sources) was recommended as cheaper and more usable for local communities. Various examples were also given showcasing the opportunities afforded by reuse, closed loop recycling and circular economies. Other suggestions included hydroponics, aquaponics and fermentation technologies; opportunities arising from increased automation and increased use of data were also highlighted. Non-technological suggestions were more frequently recommended however, including agro-ecological solutions, small scale or community growing, regenerative agriculture, aquaculture and agroforestry.

Introduction

Background

The food and drink sector is a major contributor to Scotland's economy, generating turnover of around £15.0 billion and adding £5.5 billion in GVA (Gross Value Added) per year. It is made up of more than 17,400 businesses, employing around 122,000 individuals[1], and is an important contributor to some remote and economically fragile rural and island communities.

It is also recognised that the use of local food and drink products is beneficial to the environment and helps to meet Scottish Government targets on climate change as well as supporting local economies. It is widely acknowledged that the food we grow, the way we produce and distribute it, the distance it travels and businesses we buy it from, all have an impact on local communities, the local economy and the health and wellbeing of people.

Recipe for Success – Scotland's first national food and drink policy – was published in 2009. Since this date, there has been increased emphasis on the importance of food issues and the food and drink sector has seen high levels of growth in terms of the value of food and drink exports, as well as growth in local food initiatives and the introduction of a number of educational initiatives.

Since this time, a number of initiatives have been undertaken by individuals and organisations involved in the food and drink sector, to ensure that Scotland can benefit from the food and drink sector. This has included working alongside Scotland Food and Drink, which is the lead body with responsibility for growth within the sector.

The national food and drink policy – Becoming a Good Food Nation – was published in 2014, setting out the vision that "by 2025 Scotland will be a Good Food Nation where people from every walk of life take pride and pleasure in, and benefit from, the food they produce, buy, cook, serve and eat each day." Since then, work has been undertaken to help improve access to, and the benefits of, healthy local foods, helping to ensure the sustainability of Scotland's food industry and helping to grow Scotland's reputation as a Good Food Nation.

More recently, there have also been a number of initiatives introduced to support the development and growth of this sector. For example, in 2017, the Scottish Government, its enterprise agencies and the food and drink industry supported delivery of a new food and drink strategy – Ambition 2030 – through a £10 million funding package. The aim was to help the industry realise its ambition to double its value by 2030. Also in 2017, a further £1.3 million over a three year period was provided to support locally-produced food in the public sector via plans to increase the use of Scottish produce in schools, hospitals and other public sector organisations. In 2018, the newly launched industry-led Food and Tourism Scotland Action Plan set out a range of actions to maximise the potential of the

[1] Scottish Government, Growth Sector Briefing Statistics Database, December 2021

tourism and food and drink sectors. The action plan aimed to unlock growth potential and secure additional tourist spend to the tune of an extra £1 billion on local food and drink produce by 2030.

Since 2018, the Connect Regional Food Fund (RFF) has awarded over £355,000 to a range of innovative projects; and in February 2020, regional projects and businesses across Scotland were awarded funding to promote locally sourced food and drink, with a total of 21 projects sharing £95,550.

The SNP manifesto included a focus on the ‘Right to Food’ which included actions under ‘Eat Healthy; Eat Local’. This included action to *“produce a local food strategy which supports locally based production and circular supply chains, cutting food miles and enabling more people to enjoy food grown locally”*.

The COVID-19 pandemic has had both positive and negative impacts; with some innovative developments within the food and drink sector, although a key issue is whether all these developments will be sustainable in the longer term, particularly in the light of the current staff shortages across the sector.

Most recently, the Good Food Nation Bill was introduced in October 2021 and lays the foundation for Scotland to become a Good Food Nation where people from all walks of life take pride and pleasure from the food they produce, buy, cook and eat each day.

In August 2021, the Scottish Government published its *‘Local Food for everyone: a discussion’*. This document set out a comprehensive programme of actions the Scottish Government are taking to support local food as well as asking for views on what more could be done to create a future where all can enjoy locally produced food.

Respondent Profile

Written consultation responses

A total of 298 responses were received: 81 from organisations and 217 from individuals.

Consultation respondents were assigned to respondent groupings in order to enable analysis of any differences or commonalities across or within the various different types of organisations and individuals that responded.

A list of all those organisations that submitted a response to the consultation and agreed to have their name published is included in Appendix 1.

The following table shows the numbers of responses in each analysis sub-group. The largest organisation sub-groups with 17 respondents were campaign / advocacy and representative bodies, followed by food / food retail / producer / distributor (9 respondents) and community interest / social enterprise (7 respondents); there were smaller numbers in other sub-groups.

Table 1 - Respondent profile

	Number
Campaigning / advocacy	17
Community interest / social enterprise	7
Education / Academic / Research	4
Environment / conservation	5
Food / food retail / producer / distributor	9
Local authority	3
Public sector / NDPB	5
Representative body	17
Third sector (food)	6
Third sector (non-food)	4
Other	4
Total organisations	**81**
Individuals	217
Total respondents	**298**

Consultation engagement programme

A series of 18 tailored workshops were held during October and November 2021, to provide an opportunity for further input on the Local Food Strategy in addition to written responses. A total of 297 participants attended these workshops, which were designed and co-ordinated by Nourish Scotland in partnership with Scotland's Sustainable Food Places food partnerships network and the Scottish Government.

The following is a list of all the official workshops - the majority were run online, although two were held in person in Stirling and on the Isle of Arran. Nourish also supported a number of 'informal' local food discussions including at 'climate cafes' in Glasgow and former coal mining communities including Kincardine, High Valleyfield, Auchinloch and Cardowan.

Aberdeen: 27th October
Angus: 15th November
Arran: 17th November, in person event
Clackmannanshire: 12th November
Dumfries & Galloway: 26th October
Dundee: 15th November

Edinburgh: 17th November
Fife: 16th November
Glasgow: 26th October
Glasgow (west): 23rd November
Highland: 4th October
Islands: 17th November
North Ayrshire: 17th November
South Lanarkshire: 28th October
Stirling: 27th October, in person event

Workshops also took place for Scotland's **Sustainable Food Places** regional coordinators (29th October), **Nourish Scotland members** (12th October) and also for the **'Good Food' in Scottish Schools Working Group** looking at the provision of universal free school meals (25th October) including members from ADES Resources Network, APSE, Argyll & Bute Council, ASSIST FM, Brakes Scotland, COSLA, East Ayrshire Council, Edinburgh City Council, Health and Social Care Alliance Scotland, North Ayrshire Council, Nourish Scotland, Scotland Excel, South Lanarkshire Council, STUC, Sustain, Sustainable Food Places, The Food Foundation, The Soil Association Scotland, The University of Edinburgh Business School and Zero Waste Scotland. The latter two workshops also resulted in the submission of written consultation responses.

The views at these workshops echoed those provided in the consultation responses. Where themes or issues are discussed in this report, it should be assumed that they emerged both in consultation responses and during the workshops.

Methodology

Responses to the consultation were submitted using the Scottish Government consultation platform Citizen Space or by email or hard copy.

It should be borne in mind that the number responding at each question is not always the same as the number presented in the respondent group table. This is because not all respondents addressed all questions; some commented only on those questions or sections of relevance to their organisation, sector or field of interest; some opted not to respond to any questions and submitted a 'freeflowing' commentary covering issues of importance to them. The report indicates the number of respondents who commented at each question.

Some of the consultation questions contained closed, tick-boxes. Where respondents did not follow the questions but mentioned within their text that they agreed or disagreed with a point, these have been included in the relevant counts. This information is presented in table format at the relevant questions.

The researchers examined all comments made by respondents and noted the range of issues mentioned in responses, including reasons for opinions, specific examples or explanations, alternative suggestions or other comments. Grouping these issues together into similar themes allowed the researchers to identify whether any particular theme was specific to any particular respondent group or groups.

When looking at group differences however, it must be also borne in mind that where a specific opinion has been identified in relation to a particular group or groups, this does not indicate that other groups did not share this opinion, but rather that they simply did not comment on that particular point.

While the consultation gave all who wished to comment an opportunity to do so, given the self-selecting nature of this type of exercise, any figures quoted here cannot be extrapolated to the wider population outwith the respondent sample. Where comments were made primarily by organisations or individuals, this has been highlighted throughout the report; where no reference is made, it should be assumed that issues were raised by both organisations and individuals.

A small number of verbatim comments, from those who gave permission for their responses to be made public, have been used in the report to illustrate themes or to provide extra detail for some specific points.

Part A – Local Food

Defining Local Food

The consultation paper set out a definition of local food, reflecting the fact that local food means different things to different people; defined as food that has some of all of the following features:

- It is produced locally (this includes your town, region or elsewhere in Scotland).
- It has short supply chains (there are fewer steps between the primary producer of the food and the person who eats the food).
- It is sustainably produced (i.e. produced in a way that is better for the natural environment than large scale industrial production).
- It is produced in a way that places an emphasis on building better relationships of trust, information, fairness and support between local food producers and the people buying and eating their food.

The first question asked,

Q1: Do you agree with the Scottish Government definition of local food as set out in the strategy?

A total of 292 consultation respondents opted to provide a response to this question. The **majority (80%) of these respondents – across all sub-groups – agreed with the Scottish Government definition of local food**; a small minority of respondents (15%) disagreed with this definition.

Table 2 - Q1: Agreement with definition of local food

	Number			
	Yes	No	Don't know	No response
Campaigning / advocacy (17)	13	4	-	-
Community interest / social enterprise (7)	5	1	1	-
Education / Academic / Research (4)	4	-	-	-
Environment / conservation (5)	3	2	-	-
Food / food retail / producer / distributor (9)	8	1	-	-
Local authority (3)	2	-	-	1
Public sector / NDPB (5)	1	2	2	-
Representative body (17)	12	4	1	-
Third sector (food) (6)	5	-	-	1
Third sector (non-food) (4)	3	-	-	1
Other (4)	4	-	-	-
Total organisations (81)	**60 (74%)**	**14 (17%)**	**4 (5%)**	**3 (4%)**
Individuals (217)	177 (82%)	31 (14%)	6 (3%)	3 (1%)
Total respondents (298)	**237 (80%)**	**45 (15%)**	**10 (3%)**	**6 (2%)**

(Percentages might not add to 100% because of rounding)

Consultation respondents were then asked to explain their answer; 209 respondents provided comments. A small minority of these, primarily organisations, simply noted their **support for the overall definition** as being the way forward to bring about social and environmental benefits to local communities. To a large extent, **comments made by many of the respondents answering this question echoed the points that were in the consultation paper**. For example, some, mostly organisations, felt there is a need for flexibility within this definition as different people will define 'local food' in different ways.

Other topics highlighted mostly by individuals referred to a need for **more specific geographic delineation of local food**, although there was no consistency in views. For example, there were references to local food being food grown within an hour's drive or 50 miles, for food grown within 40 miles and for food grown within 20 miles, along with some references to the need for 20 minute neighbourhoods[2].

Some other respondents, primarily individuals, referred to local food as being from within the geographic area where they live, including England or Northern Ireland for those living close to a border. There were also some references to locally grown food being defined as any food that is produced, packaged and distributed within Scotland, although a similar proportion also referred to local food as any food from Great Britain and Ireland, particularly in instances where there is a need for food items that cannot be grown in Scotland; or from further afield for certain products such as bananas or avocados.

The need for improvements to supply chains and necessary infrastructure were cited by some respondents – mostly organisations – with references to the need for support for growers by providing stronger supply chains which are short and accountable and providing the necessary local processing units. That said, there was a view from a few organisations that an effective supply chain is more important than its length and that any supply chain will need to be agile, adaptable and aligned, as well as being financially viable.

Alongside a need for stronger supply chains, there were also comments, mainly from organisations, on the **need to provide more support for local businesses**; for example by providing business support, in supporting them to buy at the same price as the big multiples, or in supporting smaller producers who currently have a limited access to the wider market or in investing in, and promoting, local food systems. A few respondents noted that improvements to the infrastructure would also support local businesses and sustain local producers, thereby supporting the local economy and local jobs.

Environmental issues were raised by a number of respondents, with some requests for any food policy to link to climate change and comments that a greater use of local food would lead to fewer food miles and a lower carbon footprint. Alongside this, there were comments from a small number of individuals on the need for less (non-recycled) packaging to be used and less waste to be created.

While environmental issues were a key area for some respondents, there was also an acknowledgement primarily from organisations as well as a few individuals on the need to have a **holistic approach across all agriculture and food policies, and for any local food policy to be more explicit in terms of climate change, biodiversity and health**. An environmental / conservation organisation noted the need for the environmental impact of food to be part of the definition and not just a feature of locally produced food, given that some locally produced food can have a higher impact than food produced elsewhere. As noted by an organisation in the food / food retail / producer / distribution sub-group,

[2] Climate Exchange defines 20 minute neighbourhoods as places that are designed so residents can meet their day-to-day needs within a 20 minute walk of their home; through access to safe walking and cycling routes, or by public transport.

"It is also very positive to think of local food as the attributes it embodies. The key four are: 1. nutritionally health giving, 2. actively carbon reducing, 3. creating real jobs in independent businesses, 4. produced in a way that regenerates nature. These four attributes of local food should be measured and quantified for a range of foods and retail settings, and used to help guide consumer preference. These four attributes should also be directly linked to SG spending - for instance in the post CAP farm payment system."

The issue of provenance and the need for labelling was cited by a small minority of respondents (more organisations than individuals), with comments on the need for information to be provided on the origin of food products so that consumers have information on the source of food they are purchasing. Linked to this, there were also a few requests for information on CO_2 emissions, with some suggestions for a form of traffic lighting on food labels.

While there was a degree of support for local food to be sustainably produced, there were a few requests from organisations for **a clear definition of 'sustainable'**. As noted by one campaigning / advocacy organisation this definition should include *"a method of production using processes and systems that are non-polluting, conserve non-renewable energy and natural resources, are economically efficient, are safe for nature and biodiversity, workers, communities and consumers, and do not compromise the needs of future generations"*.

Linked to this issue, a few respondents also referred to the importance of an **agro-ecology** approach which is a system of sustainable farming that works with nature offering a holistic and integrated approach that applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems.

There were also a few references to the need for food in Scotland to be produced to high welfare and environmental standards, offering transparency over the use of fertilisers and insecticides so that consumers have information on the conditions under which food is grown. This issue was cited by more individuals than organisations.

A few respondents referred to specific topics that should be included in a local food policy. These included reference to:

- Alternatives to intensive farming which is an approach seen as damaging the environment (individuals).
- A Wild Food (foraged food) Strategy.
- Allotments and community growing areas, with a small number of references to Community Supported Agriculture (cited by more individuals than organisations).
- Other food products including seafood, fish and venison (cited by more organisations than individuals).

A few respondents, mostly organisations, noted the need for solutions to feed a large population and commented on the need to consider larger farms so that all producers can be part of an integrated food system. There were also a small number of comments that it is wrong to imply that sustainably produced food is inconsistent with large scale industrial production, particularly as this can offer economies of scale.

The Benefits and Disadvantages of Local Food

The consultation paper then set out a number of benefits of local food within local economies, the environment, health, food waste and reducing barriers to food. The next question asked,

Q2: Do you agree with the benefits associated with local food as set out in the strategy?

As shown in the following table, **almost three in four respondents agreed with the benefits associated with local food**, while almost all of the remaining respondents agreed with some but not all of these benefits.

Table 3 - Q2: Agreement with benefits of local food

	Number				
	Yes	Agree with some but not all	No	Don't know	No response
Campaigning / advocacy (17)	10	7	-	-	-
Community interest / social enterprise (7)	5	2	-	-	-
Education / Academic / Research (4)	3	1	-	-	-
Environment / conservation (5)	3	2	-	-	-
Food / food retail / producer / distributor (9)	8	1	-	-	-
Local authority (3)	1	1	-	-	1
Public sector / NDPB (5)	3	2	-	-	-
Representative body (17)	12	5	-	-	-
Third sector (food) (6)	5	-	-	-	1
Third sector (non-food) (4)	1	2	-	-	1
Other (4)	3	1	-	-	-
Total organisations (81)	**54 (67%)**	**24 (30%)**	**-**	**-**	**3 (4%)**
Individuals (217)	160 (74%)	47 (22%)	3 (1%)	2 (1%)	5 (1%)
Total respondents (298)	**214 (72%)**	**71 (24%)**	**3 (1%)**	**2 (1%)**	**8 (3%)**

(Percentages might not add to 100% because of rounding)

Respondents were then invited to give further details about their response, including whether there are any further benefits associated with local food which have not been captured, together with examples where possible. 188 respondents made comments. To a large extent, comments reiterated and expanded upon the benefits outlined in the discussion paper. The following paragraphs outline the key themes which emerged in response to this question.

A significant minority (roughly one in five of those who provided answers, and nearly one in three organisations) reiterated their general agreement with the benefits mentioned in the consultation. Similar significant proportions of respondents (higher proportions of organisations than individuals in all cases) cited each of the following wide variety of benefits as stated in the following paragraphs.

Food quality benefits, with specific mentions made regarding freshness, mineral, vitamin and nutrient content, seasonality, breadth of food range, less need for processed food and security and accessibility of healthy food provision.

Health benefits, in terms of a better fed or nourished population and the mental health of the farming community (e.g. by way of stress relief and reduction of isolation or loneliness), with consequent knock-on benefits for the NHS.

Employment benefits, due to inspiring more people to consider jobs in the food sector with the proviso that fair pay, workers' rights and skills development are made available.

Benefits for remote / crofting / island and rural areas, due to the ability to produce more of their own food, develop their own brands, sustain rural communities and enable a good quality of life generally. However, most respondents stated the caveat that **more local infrastructure was needed** to realise this benefit; local hubs, processing facilities (e.g. containerised or mobile units), storage and logistics facilities, ferries, and especially abattoirs were recommended in order to keep slaughtering, packaging and processing within the locality. An example of the problems faced by producers was noted by an organisation in the campaigning / advocacy sector:

"For example, the majority of Scottish pigs are slaughtered in England (over 500,000 compared to 300,000 in Scotland according to Scotland Food and Drink) because of a lack of capacity and infrastructure. This also means that the Scottish pig industry is extremely fragile, being reliant on only one abattoir in Scotland, which is particularly problematic given animal transport regulations and journey times."

Benefits arising from shorter supply chains and less food miles: these were purported as including fresher, healthier food, fewer preservation requirements, reduced transport emissions and enhanced viability of small farms and food producers. **Benefits for animal health** and welfare were also cited as arising from animals not having to travel long distances for breeding or slaughter.

Food waste and recycling benefits, with less waste arising due to longer shelf lives, and additional opportunities identified (e.g. in local food markets or composting) if food is grown or produced locally: examples cited included a zero waste production line in the cod sector in Iceland, and of a distillery utilising waste water to heat greenhouses which produce tomatoes. Smaller numbers of respondents foresaw that less packaging waste would arise, due to less being needed because of fewer transport and storage requirements. There were a very small number of comments on the need to provide support for businesses which use food surplus e.g. fermenting businesses. There was also a suggestion of a need to ensure composting activities are in place along with food waste collections and accessibly priced refilleries (zero waste shops).

Positive benefits for the local economy, with local purchasing purported to keep money in the area as well as helping local businesses. Respondents also referred to this process being redistributive in nature (e.g. to those who produce as well as consume), fair, sustainable and an aid in tackling food poverty. Smaller numbers of respondents also commented about positive impacts on communities more generally, reiterating Community Wealth Building and its benefits.

Improving peoples' connections to food production and consumption via raising awareness of the environment and seasonality of foods. A significant minority of respondents specifically discussed the benefits (e.g. helping deprived people, access to fresh air) arising from community growing or food processing projects such as allotment usage or community gardens, while stressing the need to make more land available for these activities. Similar numbers discussed other **social and cultural benefits** arising from a local food strategy; these included the sharing of knowledge, inclusivity, relationship building between customers and suppliers and more general connection building within communities.

Environmental benefits and protections, with envisaged climate change mitigation benefits, and reductions of carbon and methane emissions. Additionally, reductions in flooding were predicted as soil condition improvements enable water to be soaked up, and other countries' water supplies would be protected due to less overseas food imports.

A significant minority of respondents were in favour of **organic or agro-ecological methods of growing or farming**; soil condition, biodiversity, carbon sequestration and regenerative benefits were mooted from these activities.

Small numbers of respondents also mentioned the following potential benefits:

- Less use being made of non-organic aids to growth such as chemicals, antibiotics, hormones and pesticides.
- Tourism benefits (e.g. opportunities to increase tourism based on food provenance, or ensuring that love for food becomes a sought after visitor experience).

Small numbers of respondents suggested further aids to help achieve the benefits of a local food strategy: these included encouragement of foraging for wild food or greater consumption of venison; a very small number recommended Controlled Environment Agriculture or Vertical Farming as useful tools and there were also a couple of favourable comments about Community Supported Agriculture Schemes (CSAs).

Despite the high numbers of respondents citing the benefits discussed above, **a significant minority nevertheless highlighted various issues which required tackling in order to realise the benefits of local food strategies**. Chief amongst these, a significant minority cautioned that there needs to be behavioural change; facets mentioned included consumer purchasing behaviour, the promotion of seasonal foods, education about food and cooking, regenerative food growing and the unimportance of vegetable aesthetics.

Other additional issues and provisos relating to local food strategy implementation, each cited by slightly smaller numbers of respondents but still comprising a significant minority, were as follows:

- A **need for government or local authority support**, with specific mentions made about healthy food procurement practices, Scottish food being built into government or council food chains such as those involving schools or care homes, access to land, help with set up costs, aligning support to local requirements and organisation of local food waste collection and disposal by local authorities.
- A recognition that some **descriptions in the consultation are unrealistic**, including a perceived lack of good agricultural land in Scotland in reality, climate and geography-related drawbacks, poor soil condition (e.g. suffering degraded mineral content), erosion, a short growing season, scepticism regarding 'high standards' of production (with cod management and inshore trawling specifically mentioned) and local food not necessarily equating to healthy food. A small number of respondents stated that it would be unrealistic for Scotland to become self-sufficient and that some foods will always have to be imported; one mention was made of the need for a contingency plan in case of crop failure.
- **Affordability, accessibility and pricing issues** relating to local food, with complaints that local food prices cannot compare with prices in supermarkets or prices of imported food. This issue was largely raised by individuals. Suggestions to address this problem included issuing food credits for consumers, instigating government subsidies for local producers, and supporting those on low incomes to access local food.

A few respondents suggested a number of **policy interventions as aids for prioritising local food**, including:

- Agricultural subsidy reform (e.g. replacing area payments with public money for public goods).
- Reinstating entrant farmer grants.
- Support for innovative land management strategies.
- Easing planning regulations.
- Mapping food production for benchmarking purposes or to identify gaps in current production patterns.
- Taxing shops on amounts of food wasted.
- Tackling consumption of products detrimental to health.
- Reducing red tape (e.g. on animal slaughter regulations, or about selling raw meat or unpasteurised milk to anyone outside the farming family).

Other comments, each made by small numbers of respondents, included:

- Requests for the benefits of a local food strategy to be articulated more clearly, with mentions of more research and evidence needed in relation to reducing barriers to local food and vertical farming, and also consideration given to pre-farmgate waste.
- References to the impacts of COVID-19 needing to be taken into the context of local food (driver and stock shortages and increased prices but with

community growing and local production proving resilient), with a very small number of mentions that it would be risky to change the economy while the effects are still being felt.

- Negative views regarding fish farming, with lack of benefits to local economies (through foreign-ownership of firms), lack of policing and lack of environmental friendliness all pinpointed as problem areas.
- Negative comments about the business methods of supermarkets and multinational businesses, over-packaging, too much bulk selling and the sacrifice of quality for cheap prices; these respondents desired more support for small scale farmers and businesses.

Having provided their views on the benefits of local food, respondents were then asked:

Q3: Are you aware of any disadvantages of local food?

A total of 285 respondents across all sub-groups answered this question. Views were relatively split with slightly more respondents (146) agreeing there are disadvantages of local food compared to 139 who did not outline any disadvantages.

Table 4 - Q3: Awareness of disadvantages of local food

	Number		
	Yes	No	No response
Campaigning / advocacy (17)	6	11	-
Community interest / social enterprise (7)	4	3	-
Education / Academic / Research (4)	2	2	-
Environment / conservation (5)	5	-	-
Food / food retail / producer / distributor (9)	6	3	-
Local authority (3)	2	-	1
Public sector / NDPB (5)	5	-	-
Representative body (17)	9	8	-
Third sector (food) (6)	2	2	2
Third sector (non-food) (4)	2	1	1
Other (4)	1	2	1
Total organisations (81)	**44 (54%)**	**32 (40%)**	**5 (6%)**
Individuals (217)	102 (47%)	107 (49%)	8 (4%)
Total respondents (298)	**146 (49%)**	**139 (47%)**	**13 (4%)**

(Percentages might not add to 100% because of rounding)

Respondents were then given the opportunity to provide further detail about their response and 184 chose to do so. **The key theme to emerge and cited by a large minority of respondents was that local food is often too expensive** and that it needs to be affordable and accessible to all individuals. A small number of individuals also noted that there is a perception that local food is more expensive than what is available at supermarkets or that there is unequal access to affordable produce and there is a need for financial support for those who cannot afford local produce. A small number of respondents also noted concerns over the issue of food poverty and the need for local food policies to address this.

Another key comment emerging from a minority of organisations and individuals was that **people have lost a sense of eating seasonal food** and that, in order to eat local food, **people will have to eat produce when it is in season**, rather than having an expectation that food can be available all year round. Allied to this, a similar proportion of respondents (more individuals than organisations) noted that **Scottish growers will not be able to produce the range of food that individuals are used to being able to access at present**. There were also some comments that some ingredients will have to be sourced outwith the country as Scotland will not be able to produce all the food required by the population.

As at earlier questions there was also some r**eference to infrastructure and a current lack of local supply chains** and a view was expressed that efficient supply chains will need to be set up if a local food strategy is to be effective. Higher numbers of organisations than individuals made this point.

There were a number of suggestions for **increased levels of education and information on growing food for all people**. Suggestions included the educational and health aspects of gardening to be highlighted, or how to cook with seasonal produce. A few respondents felt this will be needed to persuade individuals to buy into the concept of local food.

A few respondents, mostly individuals, referred to **land and how this can impact on local food policies**. For example, there were some concerns over land which has become too contaminated to use or where soils are devoid of minerals. It was also pointed out that not all soils are good for all crops and that intensive farming practices can be detrimental to the health of soil and water. Once again, there were suggestions to **grow local produce in a sustainable manner** so as to avoid any negative carbon impacts in local food production. There were also some references, mostly from individuals, to the need to **return to a mixed farming approach** so as to produce a wide variety of food from a single source; that there needs to be a move away from intensive farming which can result in a loss of diversity.

A few respondents noted other disadvantages and these included:

- An overreliance on local food and how this can be negatively impacted by crop failure, climate change or more extreme weather.
- Not all local foods are good quality and some have a negative impact on the environment (mostly individuals).
- Small local producers cannot compete with large companies or countries that produce cheaper products and can utilise large scale food supply and distribution structures.
- Issues over sourcing a workforce willing to work the land; and the allied need for land-workers to receive the living wage (mostly individuals).

A small number of respondents – mostly organisations – felt there is a need to make **changes to public procurement practices** and cited two key reasons for this. First, it was felt that public procurement needs to be more accessible to smaller producers. Second, it was recommended that local authorities and other public sector organisations should be prepared to buy local food, even if this is at a higher cost, as this would help to lead the way for others to follow suit.

There were also some suggestions for supermarkets to stock more local produce.

Other comments made by respondents at this question reiterated points made to earlier questions and included reference to a need:

- For a holistic approach, with integration at a national, regional and local level across a wide range of policy areas so that, for example, economic and environmental policies are compatible. This was noted mostly by organisations (cited by more organisations than individuals).
- For incentives and support to be offered to producers.
- For the necessary infrastructure to be put into place; examples given were for smaller refrigeration units and more local abattoirs.

There were a small number of suggestions from organisations for a need to consider new approaches such as vertical farms which can help to combat the issue of seasonality of produce; as well as mentions of low tech solutions to help extend growing seasons.

A few respondents across different sub-groups summarised some key points and noted;

"Where local food is more expensive, this is often because a lot of agroecological, small-scale producers have no choice but to use artisanal markets to add value to their produce and products to make ends meet. This follows from a lack of support for sustainable production, especially at a smaller scale, and a failure to internalise the negative social and environmental impacts of large-scale, industrially produced, processed and distributed food, resulting in market failure and significant competitive disadvantages …. 'disadvantages' can, however, be overcome through better support for genuinely local food. Government needs to address market failure via a radical overhaul of agricultural subsidies, to ensure that they reward biodiversity protection, climate change mitigation and social public benefits including employment opportunities and the production of nutritious and local food, and by implementing the 'polluter pays' principle. Further support is necessary for local infrastructures, actively creating local markets (e.g. through procurement that prioritises local food), tackling bureaucratic and regulatory barriers to small-scale and local food production (e.g. procurement contracts, hygiene regulations) and education and training to build skills in local food."

Scottish Government Activity

The consultation paper noted that the 2014 paper '*Recipe for Success: becoming a Good Food Nation'* highlighted the interplay between food and wider socio-economic factors, and aimed to ensure that everyone in Scotland has the opportunity, skills and confidence to access an affordable, healthy and balanced diet for themselves and their families. With communities establishing local food initiatives, the launch of new food businesses and the growth of existing food businesses, The Scottish Government has worked to grow the Scottish local food economy under three pillars:

- Connecting people with food.
- Connecting Scottish producers with buyers.
- Harnessing public sector procurement.

Pillar One: Connecting people with food

The consultation paper outlined a number of ways in which the Scottish Government is helping communities across Scotland. This has included:

- Making land available for growing.
- Grow your own funding.
- Learning about food.
- Improving access to locally produced food.

The next question asked,

Q4: Do you have any comments on the first pillar of the Scottish Government's local food strategy; connecting people with food?

A total of 231 respondents, across all sub-groups, chose to respond to this question. Some of these responses echoed themes cited at earlier questions or confirmed the importance of some or all of the initiatives under this pillar. A small minority of mostly individuals confirmed their general agreement with pillar 1 or the initiatives under this pillar without providing any additional detail. There were also some general comments on the need to ensure the Scottish population has access to safe, local, diverse, fair, healthy and nutrient rich food, to ensure that there is improved access to locally produced food, and of a need to tackle food poverty This point was made by more organisations than individuals. A small minority of respondents (more organisations than individuals) felt there is a need for more ambition in food growing strategies.

The key theme which emerged related to the **importance of education**, with comments that food education needs to be an integral part of the curriculum and that there needs to be hands-on learning in school gardens, visits to communal growing sites and visits (not digital) to farms. There were also some comments about the importance of **offering food education to all individuals** and that learning should be provided outwith schools in other settings such as adult education or from community groups so that practical learning beyond schools is extended to the whole community. This theme was cited by higher numbers of organisations than individuals.

A small number of respondents noted the importance of having individuals who are sufficiently trained to be able to educate others, as well as a need for the provision of facilities for training.

There were also a few comments, primarily from organisations, that the provision of universal school meals provides a good opportunity for connecting Scottish children and young people with Scottish food in their everyday experience. A campaigning / advocacy organisation holding workshops, noted their participants wanted to see:

"The need for food to be embedded in the curriculum rather than just an add on. The need for holistic qualifications that tie practical growing and cooking skills together rather than seeing them as separate. The need for a vision for different

types of growing spaces for different needs with a variety of educational programmes attached."

Linked to the issue of education, there were also some calls for **more active promotion of local food and its nutritional benefits**, for example, through awareness campaigns or other channels of information provision.

A significant minority of respondents referred to land in some way and these issues were raised by higher numbers of organisations than individuals) also cited the **need for access to land** and noted a number of ways this could be brought about. These included greater proactivity on the part of local authorities in providing land for allotments or community gardens, with suggestions for derelict land or unused land to be provided for this purpose; or ensuring that developers provide space in new developments for growing food. Linked to this point, there were also some calls for **reform of land ownership** so that land is easier to access and there were some suggestions for a radical reform of land ownership. There were also some calls for **support of individuals who have land** so that they can produce food for local consumption and / or become commercially viable. Some of these respondents outlined financial support as necessary to take forward greater numbers of local food growers and producers. There were also some comments of the **need for access to good quality, productive land** that could offer security of tenure as access to land is a difficult and expensive process. Across these issues, a number of respondents suggested a redistribution of land to those who wish to grow, and there were a small number of suggestions for unused crofts to be given to young families to farm, given that a number of existing crofts do not currently support the development of local food.

While some respondents outlined the need for **greater levels of financial support** to food growers, there were some comments that the **current levels of available funding are insufficient** to bring about the level of change that is needed, particularly given the current costs of land purchase; this point was raised by more individuals than organisations. There were also some calls from slightly more organisations than individuals for greater levels of support for community agriculture and urban agriculture for the long term. There were also a small number of references from both organisations and individuals to the need for **agricultural subsidy reform**.

The importance of **partnership working and strong local partnerships** was highlighted by a number of respondents, mostly organisations. Examples provided by respondents included the need to connect producers, growers and farmers, by connecting producers with community businesses, or for local authorities and other public sector organisations to facilitate relationships and connections between growers, farmers, local processors and those in the hospitality and food sector. It was noted by a few that this would help to overcome barriers to accessing local food.

Echoing a theme cited at earlier questions, there were some calls for a **comprehensive, holistic and interdisciplinary approach** (primarily cited by organisations). The current local food sector is seen by some to be fragmented and localised and a need for joined-up interventions was identified. This, in turn, would help to realise ambitions across a wide range of sectors including planning, climate change and help to strengthen local economies and businesses. For example, a few respondents suggested policy actions that would make clear connections between a new Local Food Strategy, the work of the Scottish Land Commission and discussions on land reform. There were also a small number of comments for the need for **clearer connections between the three pillars**.

A few respondents referred to the need to create better living standards for all Scots, with some comments that all people should have a right to food and there should not be a need for food banks. There were a few suggestions for improving welfare benefits overall rather than providing emergency funding. Allied to this issue, a few organisations referred to the Good Food Nation Bill and the opportunities this offers to include a ‘Right to Food’ for all individuals. There were also some requests for this Bill to be more ambitious so that, for example, there could be a requirement for large retailers to have local distribution points across Scotland and for local food to be added to their supply chains. As noted by a few respondents:

“If there is to be ‘local food for everyone’ we must recognise the role of local food in the realisation of the right to food and incorporate it within the future development of the Good Food Nation Bill.”

Other issues that echoed points raised at earlier questions included:

- Reference to the benefits of local food (nutritional / physical health / mental health and wellbeing / community resilience / environmental / offering volunteering opportunities).
- The need for a suitable infrastructure to support local growers, producers and processes (cited by more organisations than individuals).
- A need for food labelling to show the provenance of food, with a few references to the need for a reduction in food waste (mostly organisations).
- Changes to procurement processes so they prioritise ‘local attributes’, with a suggestion for community benefits to be allied to procurement processes (more organisations than individuals).
- A need to include all types of food within local food policies including foraged food, seafood and so on (more organisations than individuals).

Pillar 2: Connecting Scottish producers with buyers

The consultation paper outlined the key areas covered by this pillar. These included fostering short and circular supply chains, encouraging retailers to stock Scottish food, encouraging consumers to buy Scottish food and encouraging the use of Scottish products as inputs. Respondents were then asked:

Q5: Do you have any comments on the second pillar of the Scottish Government’s local food strategy; connecting Scottish producers with buyers?

A total of 211 respondents opted to provide commentary on Pillar 2, some of whom, mostly individuals, simply noted their agreement with this pillar without providing further detail.

The key theme emerging in response to this question, and mentioned by around a third of respondents (more organisations than individuals), was of a **need for the appropriate infrastructure** to be in place to support small producers. The required infrastructure included efficient distribution networks, adequate processing facilities, short and circular supply chains, routes to market and regional distribution hubs for local producers. Linked to this, there were also some comments that the current policies and regulation around food processing can create difficulties for small enterprises, for example, the costs of being involved with farmers' markets.

The **business model of most supermarkets was perceived to be incompatible with local food strategies**, with some comments on the need to regulate supermarkets to require them to sell local produce (this point was raised by more individuals than organisations). Whilst not citing supermarkets specifically, some respondents (more organisations than individuals) also noted the need to encourage markets and retail outlets to stock local produce so as to provide greater support for local food initiatives and regional food groups.

The issue of **increasing awareness of local food and its benefits and value** was cited by more organisations than individuals, with references to the need to encourage consumers to buy Scottish food that is sustainably produced. There were also some comments on the need to promote local food to consumers and provide information to enable them to make informed choices. That said, a few respondents commented that the **price of local produce** can be an issue as this is **often more expensive** than mass produced food from elsewhere; it was felt that some consumers cannot afford to buy local food.

A number of respondents referred to the **need for greater levels of investment and support** for local food producers. Ideas included suggestions for:

- Investment in sustainable farming and urban agriculture (mostly organisations).
- Supporting farmers to develop agro-ecological and organic farming methods to help increase levels of soil resilience and encourage biodiversity (mostly organisations).
- Greater use of the Community Supported Agriculture (CSA) model. This approach is seen as having short supply chains, low retail, transport and marketing costs and direct sales to members, so the whole farming pound is retained in the local economy (mostly organisations).
- The provision of more land for growing to increase the growing capacity of Scotland – this could include community gardens, market gardens, orchards and so on.

- Support for high street outlets and encouraging new businesses to set up, perhaps by offering rate reductions (mostly individuals).
- Increased use of technology in order to extend growing seasons and the range of food available, with some reference to the use of vertical farming techniques.
- Financial investment such as low interest loans, grants, subsidies and access to this. Suggestions included:
- Funding needs to be more flexible.
- There needs to be long term investment for local food groups.
- There needs to be integration between on-farm retail and food processing capital in grant schemes.
- Capital grant schemes need to be appropriate to the scale of local businesses as often the amounts of money required are relatively small; and minimum amounts for capital grants should reflect needs.

A number of organisations referred to specific areas where the **Scottish Government could help drive forward local food strategies**. Suggestions covered a number of different approaches including **changes to procurement processes** and the introduction of Dynamic Purchasing Systems to help remove barriers created by the current procurement approaches.

The concept of a **holistic approach** was again cited by more organisations than individuals, with a need for alignment across a range of policy areas, including agriculture, climate change, energy, decarbonisation, renewables and planning. A few comments urged a need for less focus on the export market and a greater focus on the needs of Scottish communities.

As at some previous questions, there was also a focus on the need to be able to identify food as local, with suggestions for clear labelling, perhaps using a universal branding scheme or by providing information on geographic status (cited by more individuals than organisations).

In summarising a number of the above points, a representative body noted:

"[We] welcome[s] the work Scottish Government is doing with major retailers encouraging them to stock Scottish food. However an awareness needs to be brought into this of who these retailers currently are and the power they hold - Nearly 95% of groceries are sold through the top nine supermarkets, resulting in a growing imbalance of bargaining power within food supply chains. We agree[s] with the Landworkers' Alliance that 'a local food strategy should also support local economies which include local retailers. Decentralised routes to market can make healthy, fresh, nutritious and often organic food, produced by SMEs, accessible to people of all incomes. They are more accessible to agroecological and smaller scale farmers and facilitate a proliferation of such enterprises which bring an associated increase in agrodiversity at genetic, crop and landscape level. This contributes to an increase in natural biodiversity and soil health, which are vitally

important to the resilience and adaptability of our food system in the face of climate change and environmental degradation."

Pillar Three: Harnessing public sector procurement

The consultation paper outlined the key element of this pillar: leveraging public sector buying power to support Scottish producers. Respondents were then asked:

Q6: Do you have any comments on the third pillar of the Scottish Government's local food strategy; harnessing public sector procurement?

A total of 199 respondents chose to respond to this question. The greatest numbers – a large minority – made generally supportive comments agreeing with the third pillar, with respondents reiterating the importance of the public sector setting a good example by supporting local producers as much as they can; it was intimated that these actions would support increases in local food production. However, significant numbers of respondents pinpointed difficulties for local producers in accessing public sector procurement.

A significant minority of respondents (including a large minority of organisations) thought there needed to be a **focus on buying specified types of produce**. Suggestions for the sorts of food envisaged as suitable for public procurement included those that are fresh, nutritious, organic, plant-based, sustainable or seasonal. Traceability was mentioned by a couple of organisations as being important in ensuring local food production meets these standards.

Smaller but still significant numbers of respondents **thought the third pillar needed to go further**; various means of firming up public sector procurement of local food were put forward as follows:

- Mandatory local purchasing (e.g. setting a minimum percentage of all food purchasing).
- Setting legally binding targets.
- Instigating checks and oversights to oversee the process.
- Including relevant conditions on contracts, for example regarding sustainable production.
- Reviewing contract lengths, with suggestions that local producers need long term (e.g. more than 5 years) public sector commitments to help with long term planning, production forecasting and cash flow.
- Defining 'locally produced'; several respondents were of the opinion that local should mean local within a local authority area and not just within Scotland.

Respondents (including a large minority of organisations) drew attention to perceived **problems with the current public sector procurement system**; it was regarded as cumbersome, expensive, challenging and unrealistic to use from a small or local supplier's perspective, with particular issues mentioned about the number of criteria to meet for inclusion and arduous and expensive due diligence requirements. There were requests to make it easier for these types of producer to access by making it more streamlined or by reformulating the rules and processes involved (e.g. on the type and number of authorised suppliers). A specific problem was noted regarding food production being lumped together with processing and transport; it was suggested that these be broken down into segments within the system. A small number of comments suggested that the public sector procurement system needed to be decentralised (e.g. so that schools can have the freedom to make their own purchasing decisions). A food trade respondent related the following experience:

"The tendering system was very complex - we had to submit 27 separate documents including risk assessments, emergency plans, waste policies, and the like. I approached 3 agencies who promoted the idea of better procurement, but none of them would give us practical help with preparing our tender. It took 3 weeks of work to prepare a bid!"

A significant minority of organisations recommended **dynamic procurement or dynamic purchasing systems** as a solution. Advantages pinpointed included flexibility, allowing collective groups (e.g. cooperatives) to bid for contracts, the connection of producers with new supply chains, the reduction of barriers for small suppliers, the matching of government contracts with sustainable food producers, and the ability to allow for supply fluctuations due to seasonality.

Affordability issues were also raised by a significant minority, with public bodies seen as procuring the cheapest products due to budget constraints, and price being regarded as more important than quality. Concerns were consequently raised about the squeezing of small scale producers in order to compete for contract awards. A related point was made (by slightly fewer respondents) about ensuring local authorities are adequately funded to cover the increase in food costs incurred through local purchasing.

Concerns were also voiced by a large minority of organisations about the **ability of local suppliers to supply sufficient capacity** of produce. It was pointed out that small suppliers cannot compete with large companies in this regard and will need support in supply chain logistics, processing facilities and regional distribution hubs in order to step up supply. A few related remarks indicated that it was essential to instigate a holistic approach given that food production involves many facets (production, processing, distribution, etc.). A third sector organisation gave the following instance of how this can be done:

"Through our FFLS work, we know first-hand the importance of relationship building. This can be a slow process, but is very effective in the long-term, as shown by the recent example of Mossgiel Farm linking up with East Ayrshire Council to supply fresh, organic milk to all schools across the local authority area. This included the use of vending machines to serve milk in refillable containers, reducing plastic waste by 400,000 single use bottles a year." (Third Sector (food))

Other difficulties were pointed out, each by a few respondents as follows:

- The need for change regarding local authority and public sector attitudes, by way of getting them to see the value in local food, understanding the differing priorities of a sustainable food system, and seeing the links between food, public health and the environment.
- Lack of data regarding local food performance, with a suggestion that research needs to be carried out to break site information down into primary, secondary and ASN schools.
- New rules for food in schools were perceived to have resulted in less rather than more local produce qualifying for procurement.
- Concerns about disturbing the existing mechanisms which may alienate existing large suppliers.

A significant minority of respondents (mainly individuals) suggested **extending public sector procurement for local food to other publicly-owned settings** in addition to schools and other educational settings: the NHS, hospitals, prisons, leisure centres, care homes, cultural facilities and the Scottish Parliament were all mentioned in this context.

A few respondents wished to tie in public sector procurement of local food with pupil education, with elements including seasonality, local production benefits, food origins, cooking with fresh produce and food stories all suggested as having benefits for later life. A very small number of respondents saw an opportunity to link the change in public sector procurement with the expansion in free school meals. A few respondents suggested that schools, councils and other public sector organisations could produce or cook some of their own food onsite, given the right skilled staff and facilities; after school gardening clubs and hospital rooftop 'Urban AgriTech' developments were suggested as settings.

A significant minority of respondents (dominated by organisations) pinpointed **benefits from harnessing public sector procurement**. These included the following:

- Benefits for the local economy; for instance, profits from activities being kept in the local area, aligning with the government's Community Wealth-building Strategy and helping create and keep local jobs – though regarding the latter point a need to integrate fair pay for workers in procurement contracts was alluded to by a few respondents.
- Environmental benefits, including carbon savings and helping to attain climate change targets.
- Diet and health benefits from being fed fresh, local food.
- Good opportunities being offered for local suppliers, in terms of regular income, stability of demand, publicity for produce and capacity building to help compete with larger organisations.

Finally, a small number of respondents made positive comments about the Food for Life Programme, citing that it was working well and significant work had been done; however, there were a very small number of suggestions that the £400,000 of funding seemed to be too little, given a school population of greater than 700,000.

Having obtained views on each of the three pillars, respondents were then asked:

Q7: Are there any areas related to local food where Scottish Government involvement could bring further benefits or reduce disadvantages?

A total of 210 respondents commented at this question. Almost all recommended actions in many specific areas to support the benefits of local food or reduce the disadvantages they face.

The greatest number of respondents – a large minority – recommended **support for small scale or local growers, food producers and farmers**. Suggestions included funding, subsidies, a reduction in business rates, favourable treatment over global chains and big retailers and revising regulations (e.g. on hygiene and food safety) to reduce barriers for small operators. Separately, a few respondents desired support to be given to new entrant food producers, businesses and farmers, for example by restoring the new farmers' grant and providing start up loans; it was intimated that these actions would help promote food as a career. A few mentions were also made advocating mandated local procurement to help local suppliers, and also support for farmers markets or local food markets.

Helping to support or create key local infrastructure to support short supply chains was a priority for a significant minority (including a large minority of organisations); facilities desired included abattoirs (with a few suggestions these could be mobile), distribution hubs, cold stores, processing hubs, and polytunnels.

Actions to help make local food accessible and affordable to those on low incomes were mentioned by similar numbers of respondents; measures included using food credits, membership schemes involving local shops, subsidising food costs, subsidising transport charges, increasing local production to realise economies of scale to bring prices down and tackling inequalities generally. In similar vein, small numbers of respondents advocated action to help make good quality, healthy food accessible and affordable in rural, remote or island areas, given the relative cheapness of processed food and higher costs of local production.

Similar numbers again thought that **provision of education and information about local food** would help in the areas of increasing awareness of the benefits of local food and food production skills (e.g. growing and cooking your own food). A few respondents focused on action in schools, with suggestions for putting food in the curriculum and teaching sustainable cooking techniques.

A desire for **creating or making available more local green spaces** was voiced by significant numbers of respondents, in order to facilitate urban growing including allotments and community gardens. Similar numbers advocated **larger scale land reform** actions; suggestions included making more land available for small or medium growers or other help for small producers to afford or access land, making green spaces compulsory in all new housing developments, and enabling more community owned land, perhaps by using the Community Empowerment Act.

Significant numbers of respondents (particularly campaigning and advocacy organisations) wished for **action to promote organic, sustainable, seasonal or agro-ecologically-grown food**, with some suggestions that incentives be provided. A few respondents desired more promotion of healthy diets, with small numbers advocating plant-based diets or diets with no or reduced meat or dairy products.

A **clearer focus on or support for specified food-related campaigns, projects and networks** was desired by a significant minority of respondents, with a few suggestions that there should be an overall strategy overseeing these. Several campaigns and projects were named in this connection, including Scotland's Natural larder, Community Food and Health Scotland, Nourish Scotland, CHEX, the D&G Sustainable Food Partnership, and the Glasgow Food Policy Partnership. Joined up thinking was also regarded as important concerning government strategies: further recommendations included more linkage of the Scottish Government's and local authorities' food and climate agendas, and integration of the Local Food Strategy with other policies such as the Community Wealth-building Strategy, the 4th National Planning Framework, the Strategy for Economic Transformation and the Just Transition Strategy.

Small numbers of respondents each made reference to the following areas where Scottish Government involvement might help:

- Action on waste food (e.g. instigating (local) recycling facilities, fining supermarkets rather than help them redistribute to communities, increasing composting or animal feed uses or taking action on packaging waste).
- Action on labelling and food traceability (making clear what is Scottish or local to help people make informed decisions, and publicising food provenance).
- Promotion of foraging (e.g. educating people as to what is edible, reinforcing its cost effectiveness, connection to nature and exercise benefits).
- Promoting or maintaining high welfare systems for Scottish meat produce (e.g. using pasture that can be used for nothing else, local abattoirs as a help with animal welfare due to the need for less travel).
- Fishing reforms to safeguard stocks for the long term (e.g. protecting marine environments (e.g. fish / crustacean nurseries), ensuring sustainable quotas, instigating a spatial management plan for fishery operations, more controls on fish farming, promotion of small scale closed system aquaculture, cheaper distribution, limitations on dredging, effective monitoring to avoid overexploitation and less exporting in favour of local provision).
- Support for venison production (e.g. management of wild deer, development of the supply chain, investment in community owned or local larder facilities, promotion as a food resource, modernising the Deer (Scotland) Act to make wild venison more available locally and action on skills training for stalking and processing). Almost all the comments supporting venison production were from individual respondents.

- Other fiscal support actions (e.g. properly resourcing local authorities to help commit them to the success of local food strategies, expanding the Food for Life scheme to all local authorities, (increased) taxation of imported lower grade or non-seasonal food and of food which would be illegal to produce in the UK and provision of grants to regenerative farming).
- Other legislative support actions (e.g. planning legislation or planning policy reviews to remove the change of use requirement for food growing, to have a better understanding of green corridor connections, and to restrict fast food outlet locations; also to enshrine the Right to Food in Scots law, to establish production standards for Controlled Environment Agriculture and vertical farming, and to establish licencing for shooting woodpigeons).

As referred to in previous questions, significant numbers of respondents commented that potential supportive actions taken would bring benefits in the areas of climate change and environmental impacts, together with community health, resilience and employment.

The views of individuals

The Scottish Government is keen to obtain the views of individuals in terms of their views towards local food, and a series of questions were posed for individuals only. When considering answers to these questions, it should be borne in mind that they are not representative of the general population.

The first question asked:

Q8: Please indicate how willing you are to pay more for local food (very willing, willing, neutral, unwilling, very unwilling)

As demonstrated in the following table, **a large majority of respondents were willing to some extent to pay more for local food** (80% gave a response of ‘very willing’ or ‘willing’).

Table 5 - Q8: Willingness to pay more for local food

	Number*	%
Very willing	82	37
Willing	95	43
Neutral	21	10
Unwilling	11	5
Very unwilling	9	4
Don’t know	3	1

*Although this question was asked of individuals, 9 organisations also opted to respond

(Percentages might not add to 100% because of rounding)

Individuals where then asked:

Q9: Please indicate how willing you are to go to more / different shops to access local food (very willing, willing, neutral, unwilling, very unwilling)

The following table shows there is willingness from a very large majority of respondents to try new or different shops in order to access local food, with 86% giving an answer of ‘very willing’ or ‘willing’.

Table 6 - Q9: Willingness to go to more / different shops to access local foods

	Number*	%
Very willing	105	48
Willing	85	38
Neutral	18	8
Unwilling	7	3
Very unwilling	6	3
Don't know	-	-

*Although this question was asked of individuals, 9 organisations also opted to respond

(Percentages might not add to 100% because of rounding)

The next question went onto ask:

Q10: Please indicate how likely you are to change your diet, for example to eat fewer exotic foods or to eat more seasonally, in order to eat more local foods (extremely likely, likely, neutral, unlikely, very unlikely)

As demonstrated in the following table, **a very large majority of respondents were willing to some extent to change their diet in order to eat more local food** (87% gave a response of 'extremely likely' or 'likely').

Table 7 – Q10: Willingness to change diet in order to eat more local foods

	Number*	%
Extremely likely	123	56
Likely	69	31
Neutral	19	9
Unlikely	8	4
Very unlikely	2	1
Don't know	-	-

*Although this question was asked of individuals, 9 organisations also opted to respond

(Percentages might not add to 100% because of rounding)

The next question went onto ask:

Q11: Are you aware of where you can access local food?

As demonstrated in the following table, **there is widespread awareness of where to purchase local food and a high proportion of respondents claimed to be purchasing local food on at least an occasional basis**. Over half of these respondents (52%) know where to access local food and claimed to purchase it frequently; and just over a third of respondents (35%) claimed to know where to access local food and to purchase it occasionally. Only a small minority claimed to know where to buy local food but not to purchase it (6%) or claimed not to be aware of where they can access local food (7%).

Table 8 - Q11: Awareness of where to access local food

	Number*	%
Yes, and I buy it frequently	115	52
Yes, and I buy it occasionally	77	35
Yes, but I don't buy it	13	6
No, I am not aware of where I can access local food	16	7

*Although this question was asked of individuals, 9 organisations also opted to respond

(Percentages might not add to 100% because of rounding)

All respondents who answered this question were then asked to provide further detail in support of their initial answer; 168 commented. The single largest comment, made by just over a third of respondents (35%) was that **local shops are already used**, with a range of different sources being cited. These included local butchers, fishmongers, greengrocers, bakers, farm shops and farmers' markets. A few respondents also noted that they have deliveries of local food, for example, veg boxes. Some respondents noted they grow some of their own food. Small numbers of respondents also noted they use supermarkets as well as local businesses, that they prefer to support local businesses when they can or that there is good availability of local food in their area.

That said, some respondents noted that **local produce is more expensive** and that not everyone can afford it; or that there is a **limited choice locally**, that it is **too far to travel to get to local produce** or that there is no local produce nearby. Furthermore, a small number of respondents noted that it is not easy to find out where to buy local produce and there were some suggestions for an online database or some form of promotion for local produce or for a local food hub with a distribution network.

A few respondents noted that when using a supermarket, they will look for local or Scottish produce, although there were also some comments that the labelling of produce is not clear enough regarding its source, and that having reference to ‘UK’ or ‘British’ does not provide the level of information required. Small numbers of respondents also noted that supermarkets are more convenient. There were a few calls for supermarkets to stock more local produce.

Small numbers of respondents highlighted the benefits of local food, with references to it being of better quality or better for the environment. Conversely, there were some references to local produce sometimes offering poor value for money, that its quality can be poor or that local produce might not be organic.

The next question asked respondents:

Q12: Are you currently able to buy healthy, affordable food groceries within a 20 minute walk (approximately 800 metres) of your home?

As demonstrated in the following table, **a significant minority of respondents (40%) claimed it is not possible for them to buy healthy and affordable food within 20 minutes walking distance of their home**. Smaller proportions of respondents noted they have a variety of options (20%), there is limited choice (22%) or they have to travel further to buy certain products (18%).

Table 9 - Q12: Ability to buy healthy, affordable food groceries within a 20 minute walk of home

	Number*	%
Yes, I have a variety of options	44	20
Yes, but there is limited choice	48	22
Partially, I have to travel further to buy certain products	39	18
It is not possible for me to buy healthy and affordable food within 20 minutes walking distance of my home	88	40
I don’t know	1	**

*Although this question was asked of individuals, 9 organisations also opted to respond

**Less than 1%

(Percentages might not add to 100% because of rounding)

Respondents were invited to provide further detail on their initial response to this question, with a particular focus on any barriers to their ability to access healthy, affordable food; 144 chose to do so.

To a large extent, responses related to the initial response given to this question. For example, many of those who said they could only partially buy healthy, affordable goods or that they could not buy healthy, affordable food within 20 minutes walking distance of their home noted there are no food shops at all within a 20 minute walk from their home, that they live in a remote / rural area or small village, that there is a limited range locally or that they grow some of their own food or forage.

For respondents who claimed to have a variety of options, responses tended to focus on having a variety of shops or a good choice locally, that they can get some local produce at their local supermarket or that they live in a town or city.

There were also a few comments on local shops being expensive, that not everyone can afford local food, or that there can be problems getting certain types of food locally (these referred mostly to fruit and veg).

The next question went onto ask:

Q13: Are you currently able to buy local food within a 20 minute walk (approximately 800 metres) of your home?

The findings for this question tended to mirror those from the previous question (12). As demonstrated in the following table, **a significant minority of respondents (43%) claimed it is not possible for them to buy local food within 20 minutes walking distance of their home**. Smaller proportions of respondents noted they have a variety of options (13%), there is limited choice (17%) or they have to travel further to buy certain products (26%).

Table 10 - Q13: Ability to buy local food within a 20 minute walk of home

	Number*	%
Yes, I have a variety of options	29	13
Yes, but there is limited choice	37	17
Partially, I can access some local food but have to travel further to buy certain products	57	26
It is not possible for me to buy local food within 20 minutes of my home	94	43
I don’t know	1	**

*Although this question was asked of individuals, 9 organisations also opted to respond

**Less than 1%

(Percentages might not add to 100% because of rounding)

When asked to provide further detail on their initial response, comments tended to echo those seen at question 12. For example, many of those who said they could only partially buy local food or that they could not buy local food within 20 minutes walking distance of their home noted there are no food shops at all within a 20 minute walk from their home, that they live in a remote / rural area or small village, that there is a limited range locally or that they grow some of their own food or forage.

Regarding respondents who claimed to have a variety of options, responses tended to focus on having a variety of shops or a good choice locally.

Other comments made by respondents included:

- Knowing what is locally produced is a challenge / labelling is not always clear regarding the source of food products.
- Local produce can be expensive / not everyone can afford local food.
- Supermarkets do not sell enough local produce / supermarkets should be encouraged to sell more local produce.

Potential improvements for all to have better access to healthy, affordable and locally sourced food

The next question was posed to all respondents and asked:

Q14: Do you have any further comments on improvements that could be made to allow for everyone living in Scotland to have better access to healthy, affordable and locally sourced food?

A total of 205 respondents opted to answer this question. To a large extent, the themes emerging to this question echoed themes raised at earlier questions, and included comments on the need:

- To offer financial support in a number of ways including the opening of local shops, farmers' markets, reduced business rates and subsidies for small landowners and farmers. A campaigning / advocacy organisation noted:

"*Those providing public sector food in Scotland can play an important role in ensuring that everyone living in Scotland has better access to healthy, affordable and locally sourced food. Making this a reality requires significant investment across the food supply chains, school food environment, and human resources. This should not be regarded as a cost to the Scottish Government, but as sustainable, long-term investment in Scotland's community resilience, public health, environmental sustainability and contribution to global climate change mitigation.*"

- To have improved infrastructure including abattoirs, distribution networks that are reliable and affordable, and local processing plants.
- For all to have access to local food that is affordable.

- For education on, and improved awareness of, local food: where it is produced, about seasonality, the importance of eating healthy food and so on.
- For increased land for production and land reform to help bring this about.
- For a food policy that is linked to social, economic and environmental policy and that offers a holistic vision for food.
- For increased partnership working and coordination to support local growers as well as cooperation over marketing and distribution; and a more connected approach between statutory agencies, the voluntary sector and government (both local and national). There were also a few calls for public sector organisations and local authorities to set an example by ensuring all food provided in schools, hospitals and so on is locally produced. An organisation commented:

"People in Scotland face both geographic and financial barriers to accessing healthy, affordable, and locally sourced food, and strategies for overcoming these barriers will need to include public, private and third sector partners. Those providing public sector food in Scotland can play an important role in ensuring that everyone living in Scotland has better access to healthy, affordable and locally sourced food."

- For changes to procurement approaches.
- For clear labelling of all food.

A small number of respondents – mostly organisations – noted the need for a participatory approach along the lines of that followed in the Scottish National Islands Plan which involved comprehensive consultation amongst island communities:

"Food is at the centre of Scottish life and a local food strategy demands a participatory approach which involves face-to-face discussions with all those involved in and relying on local supply chains."

There were some references to The Good Food Nation Bill and the opportunities this provides for the Scottish Government and local authorities to set out plans to address geographic and financial barriers faced by people in accessing local food, although there were also some comments that this Bill does not go far enough.

Access to local food in public institutions

The Scottish Government is keen to understand the role of public institutions in providing access to local food and the next question asked:

Q15: Do you think that Scotland's schools, hospitals and other public institutions provide sufficient access to healthy, locally sourced food?

As demonstrated in the following table, there is a **lack of belief that Scotland's schools, hospitals and other public institutions provide sufficient access to**

healthy, locally sourced food, with the highest number of respondents (109), across all sub-groups, thinking that Scotland's schools, hospitals and other public institutions do not provide sufficient access to healthy, locally sourced food. Furthermore, an additional 68 respondents felt that this only happens to a degree. Only small numbers of respondents felt that Scotland's schools, hospitals and other public institutions provide healthy, locally sourced food (cited by 14 respondents) or that they mostly provide healthy, locally source food (15 respondents).

Table 11 - Q15: Do Scotland's schools, hospitals and other public institutions provide sufficient access to healthy, locally sourced food?

	Number					
	Yes	Mostly	Somewhat	Not at all	Don't Know	Not answered
Campaigning / advocacy (17)	1	-	10	2	1	3
Community interest / social enterprise (7)	1	-	1	2	2	1
Education / Academic / Research (4)	-	-	4	-	-	-
Environment / conservation (5)	-	-	2	-	1	2
Food / food retail / producer / distributor (9)	-	-	1	7	-	1
Local authority (3)	-	1	1	-	-	1
Public sector / NDPB (5)	-	-	3	1	1	-
Representative body (17)	-	-	5	9	1	2
Third sector (food) (6)	-	-	1	1	1	3
Third sector (non-food) (4)	-	-	1	1	-	2
Other (4)	-	-	3	-	-	1
Total organisations (81)	**2 (2%)**	**1 (1%)**	**32 (40%)**	**23 (28%)**	**7 (9%)**	**16 (20%)**
Individuals (217)	12 (6%)	14 (6%)	36 (17%)	86 (40%)	65 (30%)	4 (2%)
Total respondents (298)	**14 (5%)**	**15 (5%)**	**68 (23%)**	**109 (37%)**	**72 (24%)**	**20 (7%)**

(Percentages might not add to 100% because of rounding)

Respondents were given an opportunity to provide further detail on their initial response to this question, and 144 chose to do so. Some based their response on personal experience.

The key theme emerging at this question – from around a third of respondents – was of a **need to increase budgets as cost is a barrier** to accessing and using local food and local food supplies. A small number of respondents noted that money spent by local authorities on local food will return the investment to the local economy as well as offering other wide ranging health and social benefits and cost savings for the local authorities.

Around a quarter of respondents (mostly organisations) noted that **procurement rules are a barrier** to accessing healthy, locally sourced food, and there were also some comments that procurement policies should require local food to be purchased and that changes to the procurement process would facilitate access for local producers. Slightly fewer respondents commented that **public institutions should be setting an example** and accessing healthy locally sourced food. To help overcome these barriers, there were a few suggestions for the development of dynamic procurement systems and regional distribution hubs to overcome the perceived barriers currently presented by procurement processes.

A minority of respondents (more organisations than individuals) noted that **some schools, hospitals and other public institutions are making an effort** and that locally sourced meals are now more common in some places. However, **a similar number (mostly individuals) noted poor experience** of school or hospital meals citing a limited choice of available food, a lack of choice or poor quality meals. There were also some comments that food is often **cooked offsite in centralised facilities** which prevents the use of local food; and there is a **need for public institutions to have the capacity to prepare their meals**.

There were some specific references to the use of local providers. Most mentioned was the Food For Life Served Here initiative (FFLSH), with one respondent noting that more than half of Scottish councils are affiliated to this scheme. East Ayrshire Council which uses local food providers was also cited by a small number of respondents.

Other issues raised by respondents were a need:

- For gardens to be provided in schools and hospitals so they can grow their own food.
- To promote the cultural significance of food preparation and cooking, along with the social benefits of this.
- For clear labelling of products.

A few respondents, primarily those in island or remote rural areas noted difficulties in being able to access local producers and local produce throughout the year, with some comments that even when local produce can be accessed, it is on a seasonal basis.

Respondents were then asked:

Q16: Are you aware of any examples of schools, hospitals or other public institutions that have been particularly effective in providing healthy, locally sourced food?

As demonstrated in the following table, **only a minority of respondents (26%) noted any specific examples of schools, hospitals and other public institutions that have been particularly effective in providing healthy, locally sourced food**. A higher proportion of organisations noted specific examples.

Table 12 - Q16: Awareness of public institutions that have been particularly effective in providing healthy, locally sourced food

	Number		
	Yes	No	No response
Campaigning / advocacy (17)	9	4	4
Community interest / social enterprise (7)	1	4	2
Education / Academic / Research (4)	3	1	-
Environment / conservation (5)	2	1	2
Food / food retail / producer / distributor (9)	3	4	2
Local authority (3)	2	-	1
Public sector / NDPB (5)	2	-	3
Representative body (17)	9	5	3
Third sector (food) (6)	2	-	4
Third sector (non-food) (4)	1	1	2
Other (4)	2	1	1
Total organisations (81)	**36 (44%)**	**21 (26%)**	**24 (30%)**
Individuals (217)	42 (19%)	165 (76%)	10 (5%)
Total respondents (298)	**78 (26%)**	**186 (62%)**	**34 (11%)**

(Percentages might not add to 100% because of rounding)

A total of 85 respondents then went onto provide a wide range of examples of schools, hospitals and public institutions as having been particularly effective in providing healthy, locally sourced food. These included East Ayrshire Council, North Ayrshire Council, Argyll & Bute, Aberdeen City Council, the Highland Council, NHS Ayrshire, Arran schools, Arran Ayrshire College, South Ayrshire, The Isle of Raasay Walled Garden and Mossgiel Farm. There were also a few references to initiatives from overseas or the rest of the UK. Many of the references to specific examples came from organisations.

There were also references to some specific initiatives and these included Food for Life Served Here[3] (FFLSH) and allied references to the Soil Association; and Locavore[4].

Once again, there were references to problems with the procurement process and the difficulties of obtaining authorisation for local suppliers; alongside the need for a Dynamic Procurement System.

Question 17 then asked:

Q17a: Has your attitude to local food changed at all due to the coronavirus (COVID-19) pandemic and related restrictions?

As demonstrated in the following table, **a majority of respondents (169) felt their attitude to local food changed due to the pandemic and related restrictions**, at least to an extent. That said, over a third (109) claimed that the pandemic and related restrictions had not changed their attitude to local food at all.

[3] Food for Life brings schools, nurseries, hospitals and care homes, and their surrounding communities together around the core ethos of healthy, tasty and sustainable food

[4] Locavore is a social enterprise which exists to help build a more sustainable local food system

Table 13 - Q17a: Changes to attitudes to local food due to COVID-19

	Number			
	Yes	Somewhat	Not at all	Not answered
Campaigning / advocacy (17)	6	8	1	2
Community interest / social enterprise (7)	4	2	-	1
Education / Academic / Research (4)	2	1	-	1
Environment / conservation (5)	1	2	-	2
Food / food retail / producer / distributor (9)	3	2	3	1
Local authority (3)	1	1	-	1
Public sector / NDPB (5)	1	1	2	1
Representative body (17)	7	3	4	3
Third sector (food) (6)	1	2	-	3
Third sector (non-food) (4)	2	-	-	2
Other (4)	2	1	-	1
Total organisations (81)	**30 (37%)**	**23 (28%)**	**10 (12%)**	**18 (22%)**
Individuals (217)	69 (32%)	47 (22%)	99 (46%)	2 (1%)
Total respondents (298)	**99 (33%)**	**70 (23%)**	**109 (37%)**	**20 (7%)**

(Percentages might not add to 100% because of rounding)

Respondents were also asked to provide further detail in support of their initial response and a total of 200 respondents did so.

For those whose attitude had changed due to the coronavirus (COVID-19) pandemic and related restrictions, the key comments were that they have started using local shops to a greater extent or that they are more aware of the importance of local food networks and the greater levels of resilience offered by short supply chains. Additionally, there were some comments that local shops and local networks reacted better to the impact of the pandemic and were more flexible than supermarkets. Allied to this latter point, a few respondents noted that the pandemic had exposed fragilities in the food system, particularly in relation to the dominance of supermarkets and their lack of flexibility.

A few respondents also commented that the pandemic exposed existing dysfunctions and inequalities in the food system and has led to an increased use of food banks (this point was cited by higher numbers of organisations than individuals)

Of those who claimed their attitude to local food did not change at all due to coronavirus, the key comment was that they were an advocate of purchasing local food prior to the pandemic.

Organisations or schemes that have been particularly effective during the COVID-19 pandemic

The consultation posed a series of questions in relation to organisations or schemes that have been particularly effective during the COVID-19 pandemic across a number of issues:

- In providing local food.
- In developing a strong sense of local food culture and community.
- In reducing the distance that food travels from being grown or produced to being eaten (the number of 'food miles' travelled).
- In increasing the availability of locally produced food.

Respondents provided very similar responses across these questions, with little differential; so, the following paragraphs provide a summary of these four questions.

Almost half of respondents (45%) claimed to be aware of any organisations or schemes that have been particularly effective in providing local food during the COVID-19 pandemic (45% of respondents were not aware of any organisations or schemes and 10% did not provide a response) (Q18).

Exactly **half of respondents** claimed to be aware of **any organisations or schemes that have been particularly effective in developing a strong sense of local food culture and community**; (40% were not aware and 10% did not answer) (Q19).

Just over **four in ten respondents** (42%) were **aware of any organisations or schemes that have been particularly effective in reducing the distance that food travels from being grown or produced to being eaten** (the number of 'food miles' travelled); compared to 48% who were not aware and 10% who did not provide an answer (Q20).

A similar proportion (**42%**) claimed to be **aware of any organisations or schemes that have been particularly effective in increasing the availability of locally produced food**; compared to 45% who were not aware and 14% who did not provide an answer (Q21).

Across all four questions, and as seen at Question 16, a wide range of different organisations and schemes were cited by respondents as having been particularly effective during the COVID-19 pandemic, most of which were locally based and serving their local area. There were specific mentions for a number of local authorities, community organisations, community councils, social enterprises, food partnerships and individual outlets, as well as references to specific schemes, initiatives and outlets. These included Locavore in Glasgow, CFINE (Community Food Initiatives North East) in Aberdeen, Woodside Arran Farm, Scotland the Bread and Food for Life Served Here (FFLSH). A number of respondents noted that in some instances links were set up between community food initiatives and local growers and suppliers to ensure a good supply of surplus or purchased food. There were a small number of references to improved local distribution networks.

As at previous questions, there were references to the agility, capacity and preparedness of small local businesses to change their focus in order to provide products required by customers and to offer alternative delivery mechanisms. For example, when restaurants were forced to close during lockdowns, some suppliers switched to offering a delivery or collection service direct to consumers; this benefitted both the supplier and consumer.

As well as the provision of food to the local populace, some organisations focused on other initiatives such as offering training on how to grow vegetables and fruit. This was recognised as a useful skill to develop which would allow individuals to continue to grow in a sustainable fashion post-pandemic. Importantly, there was also recognition of the other benefits that this offers, including benefits to mental wellbeing, offering a form of physical exercise and so on. One example provided by a number of respondents was that of The Bowhouse. As one individual noted,

"*The Bowhouse, a local food hub in Fife, collaborated with local food producers to ensure the community had access to healthy and delicious produce during lockdown, and to provide new routes to market for local producers who lost their wholesale contracts due to the pandemic. They launched the Bowhouse Link in April 2020, to replace their usual monthly farmers market. This is an online platform which brings together a wide range of local producers, including butchers, flour millers, brewers and market gardeners, to sell their produce in one place. Local people can purchase their entire weekly shop, and the Bowhouse co-ordinate putting together orders from different suppliers, packaging the produce, and delivering it. Shorter supply chains were also beneficial for improving Covid safety, as very few people came into contact with the products between the field and delivery. After being a huge success during lockdown, the Bowhouse Link has continued to provide a platform for people to shop online for local produce weekly.*"

An organisation in the campaigning / advocacy sector commented;

"*There are many good examples of community organisations across Scotland building community resources around food and they multiplied and adapted their offerings during Covid. Each have a slightly different focus, including: training and skills around growing your own food and connecting people with food; tackling mental health and social isolation; increasing access to fresh and healthy food and ensuring awareness of healthy diets (some targeting particular age groups); ensuring community resilience and food security e.g. by supplementing the local supply chains for local public kitchens, cafes and markets with seasonal fresh food.*"

There were also a number of references to the rise in the number of food banks, food hubs and community fridges, which were particularly beneficial to those who found themselves without a job and / or regular income, and which also help to reduce food waste.

While respondents appreciated the capacity to access produce from local outlets during the pandemic, there were a few queries as to whether the produce provided was in fact locally produced and how sustainable or environmentally-friendly it was. For example, where non-seasonal produce is provided, there were some queries over the air miles travelled to obtain some of the produce. Linked to this point, there were a small number of comments on the issue of 'greenwashing' or 'virtue signalling', with some queries over how eco-friendly, green or sustainable some products are. As a few respondents noted, clear labelling would help to address these issues.

While respondents acknowledged the benefits of these changes to local communities and local economies, there were a few concerns that some services which came into being during the pandemic are no longer available or that greater numbers of consumers have now reverted to shopping at supermarkets.

At as previous questions, there were some references to the lack of infrastructure which can prevent some local businesses or produce being utilised by the local community, for example, a lack of local abattoirs or local processing facilities.

There were a few mentions of volunteering opportunities that were offered during the pandemic, and these were seen as beneficial to participating individuals. That said, there were concerns from a small number of respondents over the capacity to maintain some of the initiatives which rely heavily on volunteers, and whether volunteers will continue to fulfil this role once the pandemic is over.

Once again, the issue of funding was raised by a few respondents, with comments on the need for funding and current limitations because of inadequate funding levels, for example, that it is not possible to access funding if you are a small scale market gardener.

In summing up the situation, a respondent in the Food / food retail / producer / distributor commented:

"*Most food in a neo-liberal market economy such as ours, is provided by businesses. Solutions to the lack of local food in Scotland will not come out of supporting one-off 'schemes': they lie in reforming the market to make it fairer, less dominated by supermarkets, and incentivised to favour good local food and the small businesses that produce it. Focussing on one-off examples of 'good practice' misses the point. There are a few good examples around, but they have largely managed to deliver good local food despite the current market. They are often isolated examples precisely because the market is currently framed in a way that does not value and reward the benefits that local food delivers.*"

Part B – Vertical Farming

This section of the consultation paper noted that vertical farming is a new technology that may offer opportunities to help Scotland increase its local food production and bring food production closer to the consumer. The SNP manifesto for the 2021 election made a commitment to support the development of vertical, low carbon farms, fuelled by renewable energy, to produce more fruit and vegetables.

Vertical farming is an indoor technique where crops are produced in vertical structures such as stacks, trays or small towers to increase production per square meter. This approach can be used in small, scalable shipping containers, in retrofitted buildings or in purpose-built facilities. It often incorporates hydroponic or aeroponic growing systems. While leafy greens are currently the most common crop, research is in progress on a range of other plants, fish, insects and algae.

The first question in this part of the consultation asked:

Q22a: Have you considered using vertical farming technologies?

As shown in the following table, **relatively small numbers** (less than one in five respondents) **have considered using vertical farming technologies**; one in three said it is unsuitable for them, and one in four respondents (mainly individuals) did not know what it is.

Table 14 - Q22a: Consideration of using vertical farming technologies

	Number					
	Yes, work with / planning to	Yes, no decision made, not enough info	Yes but not going ahead	No, not suitable	DK what vertical farming is	Not answered
Campaigning / advocacy (17)	1	1	1	6	1	7
Community interest / social enterprise (7)	-	1	-	3	-	3
Education / Academic / Research (4)	2	-	-	2	-	-
Environment / conservation (5)	1	-	-	1	1	2
Food / food retail / producer / distributor (9)	1	1	3	3	-	1
Local authority (3)	-	-	-	1	-	2
Public sector / NDPB (5)	-	-	-	-	-	5
Representative body (17)	-	3	1	8	2	3
Third sector (food) (6)	-	1	-	3	-	2
Third sector (non-food) (4)	-	-	-	2	-	2
Other (4)	1	-	-	1	1	1
Total organisations (81)	**6 (7%)**	**7 (9%)**	**5 (6%)**	**30 (37%)**	**5 (6%)**	**28 (35%)**
Individuals (217)	8 (4%)	18 (8%)	8 (4%)	67 (31%)	69 (32%)	47 (22%)
Total respondents (298)	**14 (5%)**	**25 (9%)**	**13 (4%)**	**97 (33%)**	**74 (25%)**	**75 (25%)**

(Percentages might not add to 100% because of rounding)

Respondents were asked to explain their reasoning and 123 respondents provided further details. Reflecting the pattern of answering above, most respondents gave reasons as to why they would not use vertical farming technologies, with relatively few respondents being favourably inclined.

The largest numbers of respondents – a large minority – were of the opinion that **other solutions would be more effective and should therefore be prioritised**; instead, respondents were keen to promote nature-friendly farming or organic growing, improve Scotland's soils, support local producers, new entrant farmers and glasshouse or polytunnel horticulture, promote more local foraging and increase land availability for these activities. However, there were also a few supportive mentions for controlled environment agriculture (CEA), of which vertical farming is a part.

Alluding to their own situations, slightly smaller numbers of respondents described **vertical farming as not relevant as they were either not food producers or their food production focus was in an unrelated area** (e.g. small croft, livestock / poultry / sheep / mixed hill farm sectors). A few individuals commented that they do not have the space or time as they only do small scale (garden or allotment) growing.

Small numbers of respondents thought vertical farming would not be appropriate for Scotland generally, due to the variable climate, high winds and no issues with water shortages; other remarks were sceptical about its usefulness in rural areas due to the plentiful availability of space for growing.

Significant numbers of respondents considered that **vertical farming would be very or too expensive**, particularly in terms of capital requirements and high start-up costs. Three respondents complained about the lack of support or funding with vertical farming trials, premises and training.

Concerns about **vertical farming using too much energy, plastics and other resources** were raised by similar numbers of respondents. These comments perceived that the use of synthetic fertilisers and chemicals, and the sources of nutrients to feed a hydroponic system, were incompatible with sustainable practices.

Further concerns were raised, again by similar proportions of respondents, about **growing without outdoor soil or sunlight**. Food grown in this way was perceived to have less nutrient value than soil-grown food. The growing mediums used were perceived as less nutrient and microbial diverse. Worries were also expressed about the lack of pollination.

A significant minority of respondents – including a large minority of organisations - commented that **vertical farming was only suitable for a limited range of crops** such as salads, herbs and micro-vegetables (due to the growing trays not being deep enough to grow roots). Vertical farming was therefore not envisaged as capable of replacing most conventional food production.

It was also noted by a large minority of organisations that **vertical farming misses out on other positive elements relating to food production** such as forming a connection to the outdoors, jobs, culture, community wealth building, environmental stewardship and support of biodiversity, and assisting a Just Transition.

There were also a significant minority of comments indicating **general scepticism about vertical farming** including remarks that profits would be potentially concentrated in the hands of large corporations, that it was an unnecessary technology 'fix', and that it was a simply a gimmick. A campaigning / advocacy organisation summed this up as follows:

"I understand why there is interest in this area. But there are limitations. Food is more than stuff created to satisfy hunger. It comes with livelihood, jobs, culture, environmental stewardship etc. Vertical farming is expensive, will not be able to emulate the soil plant relationships and transfer of exudates, proteins and phytochemicals and wide range of trace elements that the huge soil biota facilitate. In the not too distance, most jobs in vertical farming will disappear to AI and robots and algorithms. Investment and profits will be centralised into a very few wealthy corners. I do not see vertical farming being a useful part of a fairer, greener and wealthier (wellbeing) Scotland. In the long run, it won't be the smarter option."

Among the relatively few respondents who indicated that they work with or are planning to work with a vertical farm, and those yet to make a decision, the largest numbers indicated that they were still **researching the topic and its potential impacts (e.g. climate impact)**.

Similar numbers of these respondents indicated that they were either **waiting for the technology to develop or playing a role in developing it themselves**. Active work in progress or intending to be undertaken was described by very small numbers of respondents as follows:

- Broadening uses to crops other than herbs and salads (e.g. seed potatoes, soft fruit, pharma, forestry seedlings).
- Developing pre and post-harvest environments, so that techniques are sustainable, resource efficient and carbon neutral.
- Trophic integration across agricultural processes to reduce waste or recycle nutrients.
- Integrated vertical feedstock for dairy farming.
- Hydroponic vertical farming (i.e. growing without soil or water).
- Insect farming.
- Work to increase yields.
- Vertical farming in aquaculture (e.g. mussel farming).

A few respondents focused on the **potential benefits from vertical farming** as follows:

- Production of healthier, cheaper food.

- Growing plants and vegetables in local areas where otherwise it would not be possible, due to control of the environment.
- Creation of local employment and local production and markets.
- Provision of opportunities for diversification and innovation.

Very small numbers of respondents were more cautious; they would view vertical farming positively as long as there were no environmental drawbacks or as long as it was accessible and affordable to set up.

A representative body summed up the state of play as follows:

"Vertical farming is a developing technology. It has potential to support production in Scotland, in particular for products that cannot be produced in Scotland, or that have particular environmental requirements. For production of produce through vertical farming to thrive in Scotland it will need an economic model that supports its use and can deliver in conjunction with traditional farming."

The next question went onto ask:

Q23a: What effect would increased usage of vertical farming have on food imports to Scotland?

As shown in the following table, **a majority of respondents who expressed an opinion (72%) thought increased usage of vertical farming would significantly or slightly reduce food imports to Scotland**, compared to 19% who thought it would have no effect and 9% who thought it would increase exports.

Table 15 - Q23a: Effect of increased vertical farming on food imports to Scotland

	Number						
	Signif reduce	Slightly Reduce	Have no effect	Slightly increase	Signif increase	Don't know	Not answered
Campaigning / advocacy (17)	1	3	6	1	-	1	5
Community interest / social enterprise (7)	-	2	-	1	-	-	4
Education / Academic / Research (4)	1	2	-	-	-	1	-
Environment / conservation (5)	-	2	-	-	-	-	3
Food / food retail / producer / distributor (9)	2	3	1	-	-	2	1
Local authority (3)	-	-	-	-	-	1	2
Public sector / NDPB (5)	-	-	-	-	-	-	5
Representative body (17)	-	2	-	2	-	6	7
Third sector (food) (6)	1	-	1	-	-	-	4
Third sector (non-food) (4)	-	1	1	-	-	-	2
Other (4)	1	1	1	-	-	-	1
Total organisations (81)	**6 (7%)**	**16 (20%)**	**10 (12%)**	**4 (5%)**	**- (-)**	**11 (14%)**	**34 (42%)**
Individuals (217)	24 (11%)	38 (18%)	12 (6%)	5 (1%)	2 (1%)	43 (20%)	93 (43%)
Total respondents (298)	**30 (10%)**	**54 (18%)**	**22 (7%)**	**9 (3%)**	**2 (1%)**	**54 (18%)**	**127 (43%)**

(Percentages might not add to 100% because of rounding)

Respondents were asked to provide details about their answer; 101 responses were received. Reflecting the pattern of answering above, most respondents gave reasons as to why imports might reduce, albeit with many answers giving caveats.

The main theme highlighted (by a large minority of respondents overall, and by a majority of organisations), was that **imports would be reduced for a restricted variety of crops only**. Salads, herbs, tomatoes, cucumbers and peppers were all quoted in this respect, whereas some or most crops (e.g. avocados, bananas, citrus fruits) will still need to be imported as they cannot be grown easily in vertical food systems. However, smaller numbers of respondents (but still a significant minority) **foresaw a much more significant effect** if extra crops such as seed potatoes, brassicas, soft fruits and full seed-to-harvest crops reached commercialisation and were widely adopted.

A significant minority foresaw an increase in home grown or locally grown produce resulting in improved food security and Scotland becoming less reliant on imports from other countries (such as Spain, the Netherlands and Peru), with small numbers adding that crops will be able to be grown all year round and in areas where they are not normally able to be grown. A very small number noted that vertical farming had successfully displaced imports in other countries (e.g. the Netherlands, Finland).

A few respondents thought there would be only slight decreases in imports, foreseeing limits to the scale of vertical farm rollouts, though the effects may be greater given time; similar numbers pointed out that the technology still needs developing and that the industry needs to be built up.

A few respondents (almost all of whom thought vertical farming would reduce food imports) preferred to focus on other perceived benefits derived from vertical farming as follows:

- Reduced food miles and shorter and simpler food supply chains.
- Environmental benefits including reducing the environmental load on overseas growing areas, a reduction in packaging, less need for chilling, freezing or gassing to preserve products, a lower CO_2 foot print and less waste being produced.
- Greater efficiency (e.g. faster growing times, better seedling or plant health, helping economic growth and reducing trade imbalances).

However, a significant minority (including a large minority of organisations) advocated an **increase in focus on other growing methods** as well as on vertical farming: agro-ecological methods, fresh organic production, use of waste ground or otherwise unused areas, sustainable seafood and glasshouse growing heated by renewable energy were all mentioned in this connection. In tandem, several comments alluded to vertical farming being most useful when used as complementary to other farming and food production methods; a preference for traditional farming or food production (and its associated benefits) was also advocated by small numbers of respondents.

Other caveats were also expressed by small numbers of respondents who thought vertical farming would reduce imports as follows:

- Concerns about sustainability in vertical farming regarding energy use and climate impact, with some worries that the effects will be worse than those arising from importing produce.
- Perceived dependence on the purchasing behaviour of the large supermarkets (as these have a lot of control over supply chains).
- Doubts as to whether vertical farming is needed in Scotland, given perceptions of available growing spaces, a sparse population and ready availability of water.
- The risks vertical farming is perceived to present to the human connection to food, natural cycles and the reinforcement of a local food growing culture and systems.
- Concerns about the affordability of locally grown food generally.

Among the relatively small number of respondents who thought vertical farming would increase imports, two main themes emerged, both espoused by a significant minority; firstly that **initial outlays would be too costly and therefore financial or governmental support would be needed to set up vertical farms**, and secondly, as stated by a large minority of organisations overall including most advocacy and campaigning bodies, the view that **vertical farming is not well suited to growing staple foods such as root vegetables and cereals**.

Finally small numbers of respondents reiterated their scepticism about vertical farming, stating a preference for outdoor food or food grown seasonally, and opposing support or funding being given to vertical farming.

The next question went onto ask:

Q24: Would vertical farming cause an increase, decrease or have no effect on the following concerns compared with conventional production?

As shown in the following table, a large majority of respondents who expressed an opinion thought that vertical farming would cause **an increase in electricity usage, freshness of produce and cost of production**; and a **decrease in emissions from transportation, pesticide and fertiliser usage, and land use**. Opinions were split fairly evenly regarding water usage, packaging, labour requirements and seasonality of produce, though slightly greater numbers of respondents foresaw a decrease than an increase regarding these concerns.

Table 16 - Q24: Effect of vertical farming compared with conventional production

	Number				
	Increase	Decrease	No effect	Don't know	No response
Emissions from transportation	19 (6%)	76 (26%)	24 (8%)	34 (11%)	145 (49%)
Pesticide and fertiliser usage	25 (8%)	64 (21%)	16 (5%)	47 (16%)	146 (49%)
Water usage	49 (16%)	55 (18%)	14 (5%)	33 (11%)	147 (49)
Electricity usage	91 (31%)	16 (5%)	9 (3%)	36 (12%)	146 (49%)
Packaging	30 (10%)	31 (10%)	47 (16%)	41 (14%)	149 (50%)
Land use	6 (2%)	100 (34%)	16 (5%)	29 (10%)	147 (49%)
Labour requirements	38 (13%)	43 (14%)	20 (7%)	49 (16%)	148 (50%)
Seasonality of produce	39 (13%)	50 (17%)	21 (7%)	40 (13%)	148 (50%)
Freshness of produce	77 (26%)	8 (3%)	24 (8%)	42 (14%)	147 (49%)
Cost of production	54 (18%)	19 (6%)	10 (3%)	66 (22%)	149 (50%)

(Percentages might not add to 100% because of rounding)

Respondents were asked to provide examples concerning their answers; only 60 respondents commented. Most respondents chose to give reasons for their answers at the previous question with few examples given, and many added caveats.

Comments regarding **emissions from transportation** tended to focus on transport mileage covered. The overwhelming reason given for decreases was a perception that increased local production through vertical farming would mean less transportation necessary from abroad. Most comments about increases thought this would come about as a result of increased production from spread out vertical growing in what were previously non-agricultural growing areas; there were also a couple of comments about an increase arising from the traffic necessary for building and maintaining vertical farming facilities. Most comments however said that emissions depended on where vertical farms were situated with some views that emissions would be greater if they were situated in remote regions, but less if in urban areas.

Pesticide and fertiliser usage views were very polarised: perceived decreases were purported – by a large minority of answering respondents including a majority of organisations – to be because of growing produce in an indoor, sterile environment, while slightly smaller numbers viewed increases in man-made, artificial or chemical nutrients as being necessary due to the lack of soil or manure-based fertiliser used. Alternatively, a very small number of respondents thought more organic fertiliser would be used due to the lack of soil nutrients to access. The latter two viewpoints were however refuted by one organisation as follows:

"The vertical farm is a totally controlled environment and by using clean-room technology it needs no pesticides, fungicides or biocides. We use nutrient solutions as a replacement for fertilisers in a circular system with no waste. This leads to important consequences: it eliminates the release of harmful chemicals and the consequent environmental impact. Other than oxygen, a … vertical farm has zero emissions; nothing to air, nothing to ground, nothing to landfill." (Other organisation type)

Comments about **water usage** were more nuanced; the two main points were that this would depend on the ease of sourcing water, with a few respondents perceiving that this would not be a challenge for Scotland; and that it would depend on the implementation of water recovery, filtering, and recycling systems. A few organisations gave evidence pointing to especially large decreases in water usage, as noted below:

"All reports on VF to date highlight the ability of VF systems to grow produce with a significantly reduced level of water use: ~80-90% depending on the crops and VF growing system (e.g. fine mist sprayers [aeroponics]; shallow water [NFT] irrigation; deep water culture [DWC])" (Education / academic / research organisation)

Almost all the comments about **electricity usage** saw increases arising due to high (e.g. 24 hour) lighting requirements, the automation operations needed to grow food intensively, and high heating requirements; though there were a few widely varying estimates given regarding the latter. A small number of respondents noted that increases could be ameliorated if renewable power was used or via energy sharing or storage solutions; similar numbers thought electricity usage would depend on the types of foods being grown and the precise technology used. A representative body (amongst other organisations) gave the following example:

"… lettuces grown in traditionally heated greenhouses in the UK need an estimated 250kWh of energy a year for every square metre of growing area. In comparison, lettuces grown in a purpose built vertical farm need an estimated 3,500kWh a year for each square metre of growing area."

Relatively few comments were received about **packaging**; most thought usage would depend on the distances vertical farms were from urban centres, or the types of retailer used for selling the produce (supermarkets were regarded as using significant amounts of single use packaging). A very small number of respondents thought that with washing of produce eliminated (due to a sterile environment) resulting in less residual water content, more use of reusable and recyclable packaging would be possible; local transportation and extended shelf lives would also help with this effect.

Decreases in **land use** were most frequently seen as being a result of building vertically meaning smaller areas are used. Slightly smaller numbers of respondents commented that vertical farming can be conducted in cities or on brownfield sites, resulting in no increased need for farmland; similar numbers felt however that vertical farms may be best located in remote areas due to plentiful land being available. A few respondents foresaw a need for comprehensive planning legislation for vertical farming projects, partly to ensure they are not built on fertile arable land. However, several respondents supported the following approach regarding land use:

"Vertical farming is part of a 'land sparing' focus which involves the intensification of agricultural production in some places to allow for biodiversity conservation in others (e.g. through 'rewilding'). Land sharing, such as agro-ecological approaches, instead involve farming practices that also have environmental (including biodiversity) benefits. We believe it is essential to focus on practises which focus on 'land sharing' rather than 'land sparing', as this has greater environmental benefits overall" (Representative Body)

Views about **labour requirements** were polarised: significant numbers of comments referred to increases because of the creation of specialist or high-tech jobs, or through local production and jobs created in the broader supply chain, but similar numbers foresaw a decrease because of automation impacts (e.g. in crop monitoring, sowing and harvesting).

The majority of comments about **seasonality of produce** referred to the ability to grow without seasonal considerations, though somewhat paradoxically a few respondents perceived an all year round growing season derived from an artificial environment as being more conducive to an increase rather than a decrease in seasonality.

Most of those perceiving an increase in **freshness of produce** cited that this would depend on whether the time between production and consumption was reduced or if growth centres were nearer the point of sale, with some mentions of the ability to adjust supply of produce to meet demand through control of lighting and ventilation. A very small number of respondents viewed the lack of need to wash crops as doubling their shelf lives with a consequent positive impact on freshness. A few respondents voiced a need to focus on nutritional values and taste of food grown under vertical farming conditions as well as product freshness.

A large minority of commenting respondents stated that start-up or initial **costs of production** would be high, albeit these should reduce with increasing scale and industry innovations. Significant numbers also foresaw high costs of heating and lighting as leading to higher costs of production. Among the very small numbers of respondents predicting a decrease, mentions were made of this being enabled by reduced costs of transport and the advent of picking and packing technology.

Several respondents however voiced a warning about high upfront costs having knock-on detrimental aspects as stated below:

"Clearly there is a large upfront investment that is typically not manageable for smaller producers but attractive to large national operators and investors who can carry this through on a large scale to benefit from economies of scale. In doing so, the potential benefits of these investments are experienced not locally by communities but by larger national operators." (Campaigning / Advocacy Organisation)

Significant numbers of respondents made general caveats about the question, as follows:

- Increases or decreases in the specified factors are dependent on which crops are being grown by vertical farming or conventional methods.
- Increases or decreases in the specified factors depends with which conventional production system vertical farming is being compared (e.g. glasshouse farming (vertical farming may be more water efficient), open field horticulture production (less water efficient), organic / sustainable / agro-ecological methods (less fertiliser or pesticides use), conventional industrial farming).
- Increases or decreases will depend on the numbers, prevalence, scale and location of vertical farms.

Finally, negative comments about vertical farming were again voiced by a significant number of respondents, again citing reasons such as limitations on the types of crops possible, perceived threats to the food experience engendered by Scottish premium quality products and a failure to connect people with food.

The next question asked:

Q25a: What barriers do you see to the uptake of vertical farming in Scotland?

As the following table demonstrates, the main barriers to vertical farming uptake, each of which were cited by at least one in two of those respondents who answered the question, were foreseen to be **capital expenditure costs, lack of knowledge or skill in vertical farming techniques, lack of awareness of vertical farming techniques and the economic return or cost per unit being too high**. Lack of supply chain integration, regulatory barriers and a lack of market were each cited by one in four answering respondents or fewer.

Table 17 - Q25a: Barriers to the uptake of vertical farming in Scotland?

	Number	%
Regulatory barriers	41	14
Capital expenditure costs	119	40
Economic return / cost per unit too high	77	26
Lack of supply chain integration	43	14
Lack of awareness of vertical farming techniques	90	30
Lack of knowledge or skill in vertical farming techniques	95	32
Lack of market	28	9
Other	32	11
None	7	2
No response	146	49

Respondents were asked to provide examples concerning their stated answers; 79 responses were given.

The main **regulatory barriers** discussed were planning consent and planning regulation issues. Respondents complained that the planning consent process takes too long and therefore added to costs, and about a lack of planning guidance for Controlled Environment Agriculture (CEA). There were also a few requests for the establishment of industry standards (e.g. quality, safety and kitemark certifications). Other remarks alluded to problematic rules and regulations such as OFGEM refusing to allow re-allocation of heat from RHI-contracted anaerobic digester plants to heat CEA facilities, and horticulturalists being kept away from vertical farming technology because it can’t be organically certified due to lack of soil.

Concerns over **capital expenditure costs** elicited the highest numbers of comments; the majority pinpointed high initial start-up costs and outlays such as for specialist equipment, the technical experience needed to operate it, and construction and building material costs. A high number also foresaw barriers to undertaking vertical farming on a small scale, stating that only large scale food or industrial companies or external funds from investors would be able to provide the necessary wherewithal to access the technology. A couple of suggestions were made about making some aspects standardised or interoperable to help reduce capital expenditure.

Fewer comments were made about **economic returns or costs per unit being too high**. Several respondents cited high ongoing costs as being due to high initial outlays. A few mentions were made about high expenses arising from areas such as transport for systems which are remote from urban regions, the minimum wage, and power, technology and artificial irrigation costs, compared to ‘free’ soil and sun resources. There were a small number of remarks about how standardisation and interoperability of facilities (e.g. data integration across the supply chain) together with increased size would help mitigate running costs.

Most remarks about **lack of supply chain integration** referred to the perception that vertical farming benefits would accrue to large companies only as these can integrate production into their existing supply chains, potentially outcompeting local suppliers’ supply chains. There were also small numbers of suggestions that vertical farms could be built near where food is consumed or at key supply chain integration points, and points made about the supply network needing overhauled. As one organisation in the food retail / producer / distributor sub-group explained:

“86% of Scottish food is bought in supermarkets. They set unified, UK-wide prices, but the costs for reaching their distribution hubs have to be borne by suppliers – this gives a cost advantage for large CEA close to major hubs. For more local distribution, the lack of medium sized or regional supply chains is a major barrier for CEA. Regional veg wholesalers are unwilling at present to offer a price for Scottish produce that is above their import substitution price. Achieving a 15-20% higher price for home-grown food has been critical to uptake of CEA in other northern countries.”

Comments about **a lack of awareness of vertical farming techniques** and **a lack of knowledge or skills in vertical farming techniques** were almost all made in tandem; almost all remarks referred to the need to raise awareness and uptake of skills, though many respondents were doubtful about the benefits accruing to Scotland’s local economies or communities, with some seeing a use only as an export-focused specialism (e.g. to dry, hot, water-scarce countries). A few mentions urged more education and training programmes to support workforce development and the engagement of farmers, market leaders and science leaders; a small number of respondents were concerned at the separation of skill sets at present between workers with growing skills and those with technical skills, and suggested a blend was needed.

Regarding a **lack of market**, most comments suggested that vertical farming was only applicable to certain specialist sectors such as high end restaurants, urban food niches, or as noted above an export specialism for customers in water-scarce settings. Several respondents reiterated perceived restrictions in the range of food and crops supplied by vertical farms, urging a wider variety to be developed (e.g. plantlets). Small numbers of comments voiced concerns about customer resistance, reinforcing the need for industry and public education to improve customer knowledge and uptake, and the need for affordability and accessibility of vertically farmed food.

In addition, the majority of respondents who gave answers made comments about **other barriers**. The main focuses of these are summed up below:

- Queries as to the usefulness of vertical farming to the environment, with concerns reiterated from the previous question in relation to power, fertiliser and water usage, and waste generation.
- Concerns about a lack of benefits accruing to local communities, with earlier points reiterated about the lack of help in connecting people to the local food system, benefits only being felt by large producers and operators in the food industry, and vertical farming potentially acting as a barrier to local food strategies.
- Concerns about a lack of health benefits arising from the uncertain nutritional value or content of vertical farm produce (e.g. low calorific value).

Further comments were made about the need for more research and testing of vertical farming technologies, and a need for Scottish Government or government agency support to help with capital expenditure and trialling the technology; loans, tax incentives, government equity stakes, Scottish National Investment Bank involvement, extending the remit of the Food Processing, Marketing and Co-operation Grant Scheme and redirecting farming subsidies were all suggested as vehicles to enable the latter.

The final question in this consultation asked:

Q26: Are you aware of any other technologies, other than vertical farming, which would help Scotland produce more of its own food?

As shown in the following table, 107 respondents, or **just over one in three, said they were aware of technologies other than vertical farming** which would help Scotland produce more of its own food.

Table 18 - Q26: Awareness of technologies which would help Scotland produce more of its own food

	Number		
	Yes	No	No response
Campaigning / advocacy (17)	8	2	7
Community interest / social enterprise (7)	2	-	5
Education / Academic / Research (4)	2	1	1
Environment / conservation (5)	2	-	3
Food / food retail / producer / distributor (9)	6	1	2
Local authority (3)	-	1	2
Public sector / NDPB (5)	1	-	4
Representative body (17)	9	2	6
Third sector (food) (6)	4	1	1
Third sector (non-food) (4)	2	-	2
Other (4)	2	1	1
Total organisations (81)	**38 (47%)**	**9 (11%)**	**34 (42%)**
Individuals (217)	69 (32%)	108 (50%)	40 (18%)
Total respondents (298)	**107 (36%)**	**117 (39%)**	**74 (25%)**

(Percentages might not add to 100% because of rounding)

122 respondents gave a response at this question, though a majority of the examples given were in terms of non-technological farming and growing solutions rather than those involving the use of new technologies.

Among technology-related solutions offered, the most suggested – by a significant minority of answering respondents – was **glasshouse technology**. It was recommended that using renewable energy such as ground source heat, geothermal, solar and anaerobic digestion could be commandeered to enable the growth of a wide range of produce including Mediterranean foods, a lengthening of growing seasons, and the involvement of a wide range of people. Several organisations espoused the following viewpoint:

"Compared with the huge investment required for vertical farming, it is more likely that it might be undertaken by individuals and communities, perhaps encouraged with modest start-up loans. Glasshouses therefore, in comparison with VF methods, are more likely to make Scotland more self-sufficient and food secure and generate high-quality jobs and economic value for rural communities (unlike the

large operators that take away profits to shareholders). Glasshouses can be heated with our abundant renewable energy supplies and similar to other community growing projects, are ideally suited for active participation by a wide range of people incl. kids/schools' learning projects, elderly, disabled, and marginalised people. Glasshouse technology lends itself to adding value to a localised food system run on short supply chains, and builds on community resilience in the many ways that vertical farming does not." (Campaigning / Advocacy Organisation)

Similar numbers of mentions were made giving examples of the opportunities provided by **reuse, closed loop recycling and circular economies**. These included water use in distilleries, use of residual city heat, use of food waste, composting techniques and technologies, and the provision of heating and lighting from local methane production.

A wide variety of other technologies were suggested, each by small numbers of respondents, as follows:

- Increased automation or use of robotics (e.g. in crop separation machinery, or to address a lack of labour).
- Increased use of data to enable more precision regarding nutritional needs or crop yield estimates; the use of drones was advocated by a couple of respondents as an aid to generate data.
- Other mentions of opportunities provided by renewable energy generation, with suggestions to embed this across the whole supply chain, to aid productivity, to help bring produce closer to consumers and to enable battery-driven land-working tools.
- Hydroponics (growing plants and salads without soil or water).
- Aquaponics (a coupling of aquaculture and hydroponics integrating water, plants and fish, which is mooted to give high production yields without use of soil).
- Greater use of soil science to improve soil health.
- Fermentation technologies (e.g. to enable human-grade protein extraction from Scottish grasslands, protein suitable for pigs and chickens, and also sugar for further refining); plant-based protein production was also mentioned by a couple of respondents.
- Lab-grown or lab-cultivated meat, giving possibilities of large scale, cheap and ethical meat production.
- Gene editing or gene sequencing of crops, with caveats that consumer confidence is maintained and that there are no adverse effects on biodiversity.

Additionally a very small number of respondents advocated a preference for Controlled Environment Agriculture methods other than vertical farming (i.e. with consideration given to both soil and soil-less systems); better market opportunities were foreseen due to the ability to produce staple crops and vegetables in bulk.

There were also a small number of respondents who thought more digital usage would help promote Scottish or local food.

However, a majority of respondents insisted that there should be an increased focus on a variety of **non-technological solutions** which were perceived as enabling Scotland to produce more of its own food. Most of these were also hailed as being beneficial for the environment and biodiversity.

The most frequently suggested non technology-related solution was **allotment or community food growing**, with similar numbers mentioning other types of **small-scale farming** such as market gardening, crofting or gardening activities in schools. **Agro-ecological solutions** were also mentioned by a significant minority of responders to this question.

Other non-technology-related growing methods and solutions were mentioned by smaller numbers of respondents as follows:

- Regenerative agriculture (beneficial for soil restoration and fungi, and helping to sequester carbon).
- Aquaculture (e.g. seaweed, shellfish or algae production), though a couple of respondents wished to exclude salmon farming.
- Agroforestry (i.e. mixing arable or livestock farming with fruit/nut/timber tree growing to increase biodiversity and provide heat and rainfall protection).
- Polytunnels (e.g. for soft fruit).
- Permaculture (i.e. till-free agriculture).
- Insect farming (for animal and fish feed).
- Other methods not requiring high input costs and not reliant on developing technologies, including foraging, better stock management and better land use approaches.

A small number of respondents urged changing consumer tastes through education to adjust diets (e.g. to eat more venison, seaweed).

A significant minority of respondents mentioned the need for more research, development and pilot projects to be undertaken, for instance regarding the condition of the seas, sensing technology to measure nutritional content and plant health, and crop science. Allied to this were requests for more investment and support, and concerns about benefits accruing to big business rather than at a local level.

The Scottish Government organised a vertical farming workshop to supplement the consultation responses by bringing together members of the fresh produce supply chain with the vertical farming sector. Discussion was stimulated by questions on the economic, environmental, and practical considerations around vertical farming in Scotland to help Scotland produce more of its own fruit and vegetables. These issues raised during this workshop echoed those provided in consultation responses and participants highlighted the difficulties associated with a new and developing sector, and expressed some optimism about opportunities going forward, including about the range of crops suitable for vertical farming in Scotland. The requirement for energy (particularly electricity), and its cost and the nature of its source, was highlighted as an important factor both economically and environmentally. This was also a consideration for location.

Appendix: Respondent Organisations

2050 Climate Group
A Greener Melrose
Abundant Borders
Appetite for Angus
Argyll and Bute Council
Arran Eco Savvy
Auchgoyle Farm
BigBarn CIC
British Association for Shooting and Conservation
Ceres Primary and Nursery Parent's Council
Children in Scotland
City of Edinburgh Council
CLEAR Buckhaven & Methil
CoDeL, Community Development Lens and Acting Chair Scottish Rural Action
Community of Arran Seabed Trust (COAST)
Community Food Initiatives North East (CFINE)
Community Growing Forum
Crofting Commission
CSA Network UK
Dumfries and Galloway Sustainable Food Partnership
Edinburgh Food Belt and Better Futures, Better Now
FareShare
Food and Drink Federation Scotland
Food Standards Scotland

FOUR PAWS UK
Glasgow Allotments Forum
Glasgow Community Food Network
Glasgow Food Policy Partnership (GFPP)
Granite City Good Food- Sustainable Food Places Partnership Aberdeen
Grow Angus/ Sustainable Kirriemuir
Highland Boundary Ltd and Kirklandbank Farm
Highland Council
Highland Food & Drink Club
Highland Good Food Partnership
Highland Good Food Partnership – Controlled Environment Agriculture Development Group
Intelligent Growth Solutions Limited
James Hutton Institute
Keep Scotland Beautiful
Keep Scotland the Brand
Knockfarrel Produce
Landworkers' Alliance
Linkes (SCIO)
MSD Animal Health
Naturity Health Shop
NFUS
Nourish Scotland
NSA Scotland
Old Leckie Farm
Plunkett Foundation
Quality Meat Scotland

Propagate (Scotland) CIC
Rare Breeds Survival Trust (RBST)
Reforesting Scotland
Scotland Excel
Scotland Food & Drink
Scotland's Landscape Alliance
Scotland's Rural College
Scottish Agritourism
Scottish Arts and Humanities Alliance
Scottish Association of Meat Wholesalers
Scottish Crofting Federation
Scottish Food Coalition
Scottish Land & Estates
Scottish Wholesale Association
Seafood Scotland
Soil Association Scotland
South of Scotland Enterprise
St Brides free range poultry
Tastes of Totaig / Eaglescreek Trading
The Case for 'Good School Food' Stakeholder Group (comprised of: ADES Resources Network, APSE, Argyll & Bute Council, ASSIST FM, Brakes Scotland, COSLA, East Ayrshire Council, Edinburgh City Council, Health and Social Care Alliance Scotland, North Ayrshire Council, Nourish Scotland, Scotland Excel, South Lanarkshire Council, STUC, Sustain, Sustainable Food Places, The Food Foundation, The Soil Association Scotland, The University of Edinburgh Business School and Zero Waste Scotland)
The Food Life
The Nature Friendly Farming Network
The Open Seas Trust

Transition Edinburgh South (Scotland) Ltd
Transition Turriefield
UK Urban AgriTech (UKUAT LTD)
Vertegrow Ltd
VisitArran Ltd (Arran's Food Journey)
Wellbeing Economy Alliance Scotland
Wild Food Stories / James Hutton Institute
Zero Waste Scotland

How to access background or source data

The data collected for this <statistical bulletin / social research publication>:
☐ are available in more detail through Scottish Neighbourhood Statistics

☐ are available via an alternative route <specify or delete this text>

☐ may be made available on request, subject to consideration of legal and ethical factors. Please contact <email address> for further information.

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