Can regional food systems feed the public plate?

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Contents

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Executive Summary

This report sets out to understand the capability of farmers and other regional food producers to supply UK schools, hospitals, and other public sector caterers through existing supply infrastructure. This is achieved through an examination of regional food supply data in the UK alongside published details of public food procurement contracts. This data is supplemented by a survey and interviews with procurement and supply chain representatives to build a picture of the current state of regional sourcing by the UK public sector. The aim is to identify opportunities to develop this relationship for the mutual beneficial development of both sectors.

Food production is a significant element of the UK economy, generating around £116 billion per year and employing around 4.1 million people. Farming is the cornerstone of rural economies across the British Isles, whilst food manufacturing is the UK's largest manufacturing sector as well as an essential intermediary between producers and consumers. It goes without saying that the food sector is also a vital element of individual wellbeing and public health. Despite this, the potential of the food manufacturing sector has long been overlooked by policymakers, particularly in terms of its contribution to regional and local socioeconomic development.

The analysis presented in this study describes a food manufacturing sector that is significant and geographically diverse. With the exception of the North East of England, all 9 English regions and the 3 devolved nations contribute at a similar level to the sectors national economic impact. Yorkshire and the Humber, the North West and East Midlands have the largest food sectors, largely due to clusters of very large manufacturers.

Analysis of public procurement notices indicates that nearly 4/5^{ths} of food contracts are awarded to businesses located within the region where food is to be supplied. This figure is confirmed by a survey of food procurement organisations, indicating that, typically, supply agents for the public sector tend to be relatively local. The survey revealed, however, that the ***origin*** of food sourced by the public sector is much less likely to be from the region. Albeit from a sample size of only 27 organisations, only around 31% of food is estimated to be grown or reared in the region. Moreover, one in three organisations were unable to give any estimate of this figure.

A lack of understanding about regional supply was also reflected in analysis of regional food supply predominantly based on data published by the Office of National Statistics. Typical public sector demand was mapped from the contractual notices to production and supply chain statistics. Using the case study statistical regions of South West England, Greater Manchester and Northern Ireland, this analysis reaffirmed broad supply heterogeneity at the regional level. The applicability of this insight, however, is hampered by the quality of data available and non-disclosure requirements for government generated business data. The understanding gained is largely in terms of numbers of businesses rather than capacity to supply and aggregated into supply categories that mask the diversity and nature of products available.

Nonetheless, a number of procurement demand categories in each of the three regions were identified that have between 0 and 5 suppliers available. Similar analysis of business density in relation to numbers of consumers and turnover also provided indications of public sector demand types that are under represented at the regional level.

Analysis of longer-term trends at the national level indicates that the sizes of key supply categories, on the whole, have been either steady or increasing over the past decade. Important exceptions to this, however, include vegetable, fruit and dairy farmers which have decreased in number by between 10 and 20 percent. Regional analysis of business number fluctuations presents a more dynamic picture in terms of proportional change due to the lower numbers in each category.

A series of expert interviews were conducted with representatives from across regional food and procurement supply chains in order to provide a richer context to this data and explore the challenges and opportunities for supplying regional food to the public sector. This led to the identification of 8 key messages:

1. The complexity of procurement demand and a lack of transparency acts as a barrier to regional food producers.
2. Public procurement can be an attractive alternative route to market for regional food businesses, reducing over reliance on key retail customers.
3. Matching the scale of demand with available supply is a challenge for procurers. Often regional producers are perceived as being unable to provide the required volumes.
4. Cost and pricing remains vitally important in this sector. The potential for regional food procurement is contingent on pricing that is affordable for both cost driven public institutions and small volume producers.
5. A fundamental shift to regional sourcing is limited by seasonality in UK food production, specifically in fresh produce. Although commercial fruit and vegetables are available year round, this supply does not align with public sector demand and high volume supply predominantly goes to the multiple retailers.
6. The use of appropriate purchasing structures can facilitate regional supply by simplifying processes and providing flexibility.
7. Regional producers require a range of support measures in order to shift towards supplying the public sector. This includes the provision of stable and predictable demand in order to stimulate commercial investment.
8. Proposed New Government Buying Standards that include requiring procurers to purchase at least 50% of food from local or environmentally enhanced producers is a challenging but broadly welcomed development.

Notwithstanding the data challenges encountered by this research, a clearer picture emerges from these strands of enquiry about the prevailing nature of regional food and public sector demand. The final section draws conclusions and recommendations, particularly in the context of the UK Government Food Strategy and its implementation.

Given the identified gap between regionally based procurement contract holders and primary producers this report recommends that **connecting regional producers to public sector procurers, either as second tier suppliers, or through direct supply should be a priority.** This would require a fundamental shift in practice for the sector. **Support for this agenda should come through the roll out of flexible opportunity building procurement such as through dynamic food purchasing systems as well as the provision of incentives through post-EU policy reform.**

Fruit and vegetable production is clearly the sector that has both suffered a decline in business numbers and has the key role in regionalising food supply, particularly when considering public health and carbon emissions. In this regard, **existing horticultural support mechanisms, such as the producer organisation scheme, should be reinforced and better oriented towards supporting market entry into the public sector.** Moreover, **support for growth in the horticulture sector should explicitly include consideration of production and infrastructure gaps at the regional level.**

Vitality and assurance are required across the regional food sector, however, in order to reorientate supply relationships and ensure processing, distribution and other intermediaries are able to respond to the opportunities of public supply. **The commitment to maintain a regional approach to food SME support set out by the UK Government Food Strategy should be tied to procurement opportunities**, as well as followed in spirit by the devolved nations.

The information deficits and complexity in supply challenges outlined in this report suggest that government cannot be too prescriptive about the levels and nature of regional sourcing. Therefore, **the processes or systems put in place to support a shift, such as government buying standards, must be robust but flexible.** In order to begin to address these information deficits, both within this topic area and across the food system and its intersections with health, the environment and economic development, UK Government Food Strategy announced **Food Data Transparency Partnership must have the capacity and powers to bring about positive change in what we know and how we use food system data.** This needs to be developed in partnership with both industry and the champions of consumer and environmental rights.

1. Introduction: UK Food Production and Manufacturing

This report sets out to understand the capability of farmers and other regional food producers to supply UK schools, hospitals, and other public sector caterers through existing supply infrastructure.

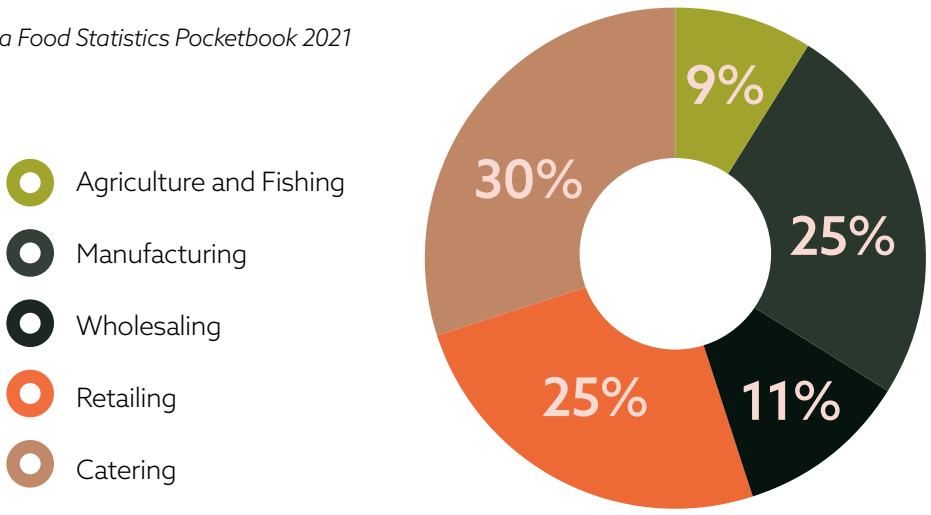
This is achieved through an examination of regional food supply data in the UK alongside published details of public food procurement contracts. This data is supplemented by a survey and interviews with procurement and supply chain representatives to build a picture of the current state of regional sourcing by the UK public sector. The aim is to identify opportunities to develop this relationship for the mutual benefit both sectors.

1.1. UK Food Production

The food sector as a whole generates around £116 billion per year for the UK economy and employs approximately 4.1 million people[i]. More broadly, the food system is an essential component of daily life in the UK, with a highly significant impact on health and wellbeing of both people and the natural environment. Farming is a cornerstone of rural Britain and has long been the subject of political intervention, for better or worse. The food manufacturing industry, however, has typically been overlooked, particularly from a socio-economic perspective, despite being the UKs largest manufacturing sector. In terms of Gross Added Value to the UK economy, food manufacturing is on a par with retailing and second only to catering (eating out of the home). As well as providing a significant net impact on UK GDP, it is also geographically highly dispersed and made up of a high proportion of SMEs. Manufactured food products are also central to UK culture, both nationally and regionally. Despite this, the industry has largely been overlooked in political and policy discourse, beyond reformulation measures for public health[ii].

Figure 1: A breakdown of the UK food sector according to contribution to total Gross Value Added (pre-covid19)

Source: Defra Food Statistics Pocketbook 2021



This report explores the significance of the food processing sector, particularly at the regional level. As well as examining evidence for the nature of regional food systems, it also seeks to understand its relationship with public sector food demand.

1.1.1. Agriculture

The British Isles are blessed with an abundance of agriculturally productive land. Nationally and in many regions, farmland is diverse enough to produce a wide range of livestock and produce within the limits set by our climate. Coupled with a strong farming sector built on a long and rich heritage, collectively, primary producers are able to meet a large proportion of our domestic food consumption demand. The 2021 UK Food Security Report estimated that British farmers produce enough food to meet around 76% of domestic demand in products that are commercially viable to grow or rear[iii]. However, this figure is calculated as a food production to supply ratio based on the farmgate value of raw food divided by an estimate of the raw value of food sold in the UK. It therefore ignores UK food exports that are substituted on a like to like basis by imports.

Figure 2: UK agricultural self-sufficiency for key products

Source: Defra UK Food Security Report 2021

Sector	UK Self Sufficiency (Production to Supply Ratio)
Oats & Barley	100%
Lamb	100%
Poultry	90%
Wheat	90%
Beef	86%
Oil Seeds	80%
Potatoes	70%
Pig Meat	66%
Vegetables	50%
Fruit	16%
All Food	60%
'Indigenous Food'	76%

Taken at face value, this data suggests that for many sectors, domestic farmers currently meet the significant majority of demand for produce that is commercially viable for production. The clear exceptions to this are vegetables and, in particular, fruit production. As well as targeting these two sectors, domestic food production can also be improved by increasing demand for 'indigenous food', broadening the scope of what is commercially viable in the UK and supporting system change to ensure that societal and environmental benefits are maximised. Later sections consider the role public sector demand can play in increasing and better using the 76% indigenous food figure.

1.1.2. The UK Food Manufacturing Sector

Food and drink manufacturing accounts contributes around £28.8bn per annum to the UK economy, nearly 2.5 times the contribution of the agricultural sector[iv] and larger than high profile sectors such as car making and pharmaceuticals[v]. The industry is diverse, there are around 7,500 SMEs that manufacture food products, making up 78% of businesses in the sector. Around 440,000 people are employed by the sector, again, greater than the number employed in farming[vi]. The manufacturing sector is highly integrated into the wider food industry through supply chain relationships with producers, distributors, other manufacturers, and retailers. The Food and Drink Federation estimate that food and drink manufacturers purchase around two thirds of all UK agricultural output[vii].

Figure 3: Percentage of Total Gross Value Added from Food Manufacturing by UK Region

North East	**2**	**London**	**8**
North West	**13**	**South East**	**7**
Yorkshire and The Humber	**13**	**South West**	**7**
East Midlands	**16**	**Scotland**	**7**
West Midlands	**7**	**Northern Ireland**	**5**
East of England	**9**	**Wales**	**6**

Source: Office for National Statistics, Regional Gross Value Added by Industry

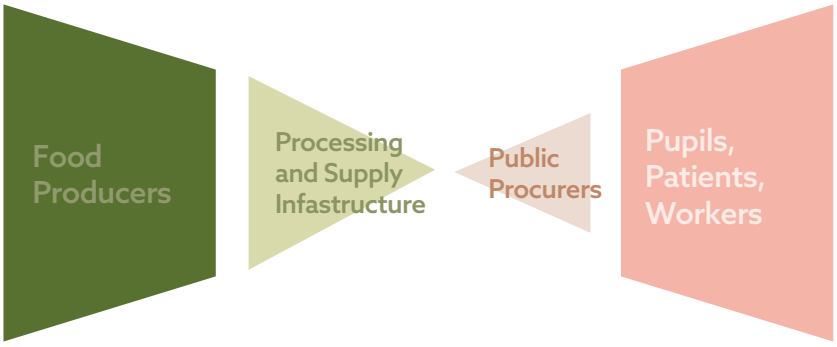
Food manufacturing is also highly geographically dispersed at the regional level. Figure 3 illustrates this in terms of share of Gross Value Added. With the exception of the North East of England, all 9 English regions and the 3 devolved nations contribute at a similar level to the sectors national economic impact. Yorkshire and the Humber, the North West and East Midlands lead this contribution, largely due to clusters of very large manufacturers but this sector should be seen as present across the breadth of the country.

2. Understanding Public Sector Demand for Regional Food

The supply and provision of food through public sector organisations is also a sector of high economic significance which has, until relatively recently, been overlooked. The last formal government assessment of the size of this sector, published in 2014, calculated a value of over £2.4 billion a year. The Independent National Food Strategy report estimated that this represents 5.5% of total UK food service turnover. Moreover, public sector catering is a vital component of care in the health and education sectors.

Despite its size and significance as a key element of vital public services, the form and operation of public sector food procurement remains relatively opaque. Indeed, government procurement as a whole is a highly significant global economic activity with immense potential to enhance human and planetary wellbeing. According to the OECD it accounts for around 13% of Global GDP.

Figure 4: Representation of the public food procurement system



In common with the food sector more generally, the supply of food into public institutions can be represented as an hourglass shape – with large numbers of producers and consumers connected by small numbers of supply and demand intermediaries that have a powerful mediating influence. Through the lens of this research, therefore, public procurers and (usually) processors are gatekeepers between regional food producers and the general public in the form of pupils, patients, and public sector workers. As an indication of the potential impact of linking regional producers to consumers through public procurement, the independent National Food Strategy estimated that a quarter of the UK population consume at least one public sector procured meal each year[viii].

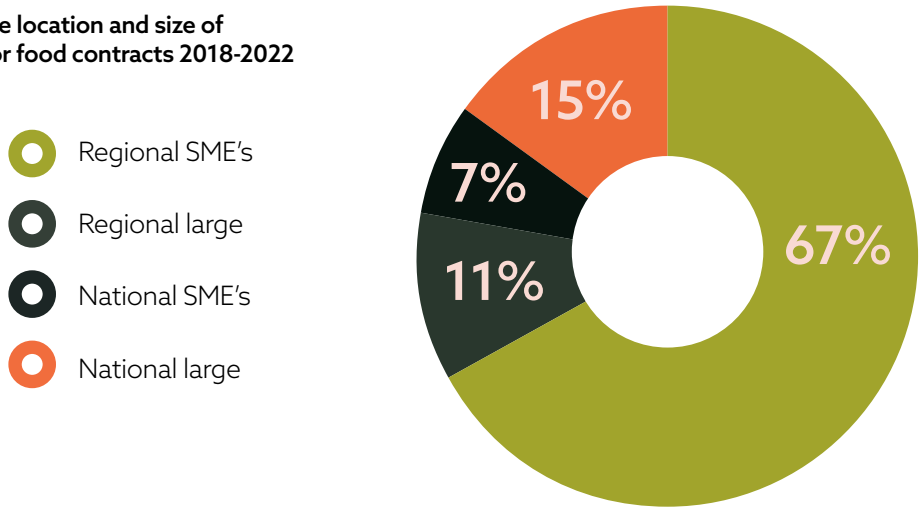
2.1. Public Contract Award Notice Analysis

Information about food sourcing in the public sector may be gleaned from procurement process notifications which are mandatory for contracts above certain thresholds. Until January 2021, all UK public sector supply or service on contract opportunities had to be advertised through the Official Journal of the European Union (OJEU), with the aim of ensuring fair access to public contracts and promoting the EU single market. UK public contracts over £118,000 must now be listed on the Find a Tender[1] service. A well as the nature and value of public supply contracts, the identity of successful bidders must also be advertised through these platforms. This information includes business location and whether they are classed as an SME.

Analysis was conducted on contract award notifications published on the OJEU database[2] between October 2018 and October 2022. A total of 226 food supply contracts were awarded by UK public sector organisations over this four-year period[3]. These were identified using standard supply classifications known as common procurement vocabulary (CPV)[4]. Of these, 76 contract award notifications were excluded from analysis as they either pertained to UK (or England) level supply competitions or were misleadingly assigned food related CPV codes. A total of 461 individual contracts were awarded to food suppliers through the 153 remaining procurement processes. The location of each of these businesses, relative to the purchasing organisation, was logged as well as their SME status.

Figure 5 below summarises the percentage of contracts awarded to regional businesses and their status as either SMEs or Large companies. It shows that a relatively large proportion of contracts are awarded to regional and / or SMEs. Over 78% of food contracts were awarded to regional businesses (using the afore mentioned definition of region corresponding to the 3 devolved nations and 9 English regions), of which 86% were SMEs. Just under 74% of awards went to SMEs, 91% of which were based in the same region as the purchaser.

Figure 5: The location and size of public sector food contracts 2018-2022



1 https://www.gov.uk/find-tender
2 https://ted.europa.eu/TED/browse/browseByMap.do
3 This figure includes 52 contracting processes which began prior to January 2021 that were obligated to publish the outcome on OJEU since this date.
4 The CPV terms used were: Eggs; Cereals and potatoes; Vegetables, fruits and nuts; Fish; Natural honey; Prepared and preserved fish; Animal products, meat and meat products; Fruit, vegetables and related products; Animal or vegetable oils and fats; Dairy products; Wheat flour; Cake mixes; Baking mixes Bakery products; Processed rice; Misc. food products; Non-alcoholic beverages.

A couple of minor health warnings should be made about this data. Firstly, a small number of contracts went to regionally based subsidiaries (or business units) owned and operated by national food distributors. Secondly, there was some minor inconsistencies in the SME status of firms, potentially due to self-reporting or administrative errors. Overall, however, this presents a positive picture regarding the degree to which public procurers purchase from regional businesses and SMEs.

Reviewing published contractual processes indicates that some contract types are more likely to be regional or local than others. In particularly, fruit and vegetable suppliers are predominantly based in the region. Local bakeries and regional dairies were also common. It should be noted however, that forms of all these products can also be supplied through national wholesaler / distributors as part of broader contracting arrangements and would therefore be invisible at the contract level. The actual proportion of each of these product lines being sourced regionally could therefore be significantly lower. As an example, bread is a relatively straight forward product to source through national food service wholesalers as well as through regional manufacturing bakers and smaller local bakers that have retail outlets.

2.2. A Survey of Food Procurement Organisations

The understanding of regional sourcing extracted from public award notices was reinforced and deepened through an online survey of food procurement organisations. In order to encourage take up, the survey was designed to take around 5-10 minutes for complete, based on 13 questions related to regional food sourcing (see copy of survey in Appendix A). Respondents were also able to remain anonymous and provide estimates for factual questions relating to degrees of sourcing, values etc. The overarching aim was to elicit information about how individual public sector organisations procure food and their relationships with regional food processors. The survey was administered in the Summer of 2021, primarily through contacts listed in OJEU contract award processes and cascaded through representatives of procurement organisations on a national and regional basis. Approximately 140 organisations were approached through this method, of which 27 responded to the survey.

Although this is a relatively small proportion of public sector food buyers, the survey respondents were responsible for a collective annual UK food spend of over £435 Million. Just over 55% of respondents were organisations in the education sector, whilst 3 NHS organisations and 2 prisons completed the questionnaire.

The survey found that over 4/5^{ths} use their own contractual arrangements with suppliers, with the remainder either using or managing third party framework agreements. The number of individual food contracts ongoing at any one time ranged from 2 to 20. The most common (mode) number of contracts was 3, whilst the average was 7.7. In line with the OJEU analysis, the survey reported that around 4/5^{ths} of contract holders were regionally based (82% in the survey compared with 78% in the contract award analysis). The survey respondents estimated that regional sourcing accounts for an average of 90% of the organisation's total food spend. Two thirds of responding organisations reported that all their contracted suppliers are regionally based.

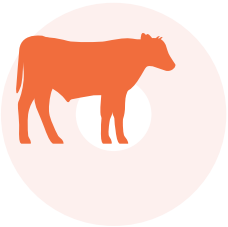
Regarding the geographical origin of food, rather than the location of the contract holder, the proportion of food spend going to regional products was much lower at around 31% on average. Moreover, eight respondents (30% were unable to answer this question). Milk and dairy products were the most cited product regionally sourced (48%), followed by meat and bakery products (both 26%).

Figure 6: Regional sourcing survey data

82%	90%	31%
Percentage of contracts with regional suppliers	Percentage of food spend with regional suppliers	Estimated percentage of food spend on products of regional origin

Most common regional food supply categories

Milk (& dairy products) 48%
Meat (various) 26%
Bread (& bakery products) 26%



When asked if there were products which had the potential to be sourced from the region but were not due to a lack of suitable suppliers, the most frequent response was seasonal vegetables (8) followed by meat (5). Eleven respondents did not answer this question, however, suggesting a lack of knowledge about what is produced in the region.

In terms of longer-term trends, 10 organisations (around 40%) reported that they had increased the amount they source from their region over the previous decade, with a further 9 considering that it had stayed more or less the same. Only 2 respondents reported decreases in regional sourcing over this period. Similar proportions reported that interest from regional suppliers over the past 10 years had increased (10), stayed more or less the same (11) and decreased (3). There was no discernible relationship between these opinions and existing levels of regional sourcing, although formal analysis of this is restricted by the low sample number.

A variety of reasons were put forward as to what prevents greater regional sourcing. Some of these are included in Figure 7 below to illustrate the range relayed.

Figure 7: Barriers to regional food sourcing

- Regulations and large contract documents making bidding onerous
- Appropriate tendering methodologies which give priority to location and social value over price
- Capacity to provide consistent stock due to size of business
- Price is normally a barrier for the service.
- Product range is also prohibitive.
- Ability to serve full area.
- [They] do not appear to be interested in supplying

In summary, the survey suggests that sourcing from regionally based suppliers is common if not the dominant food procurement structure among UK public sector bodies. This is backed up by the OJEU contract analysis in the preceding section, although in both cases organisations which procure nationally will be underrepresented, either by not responding to the survey or by not showing up in the OJEU data due to using an alternative procurement framework or using a third-party caterer.

The survey clearly illustrates that although many procurers use regional suppliers, the levels of product used that originate in the region is much lower. As outlined, much of this is relatively unavoidable, given the range of food that can be economically grown or reared around the UK and the consumption habits of modern UK consumers. Nonetheless, many respondents were unable to provide estimates of how much food originates from the region and others no doubt provided educated guesses. This is clearly a knowledge gap when it comes to understanding the potential impact of public sector food procurement on regional food and farming sectors. The survey reported a clear upward trend in both demand and potential supply, with very few reporting a decrease in sourcing or interest from suppliers (2 and 3 respectively). On the other hand, the low response rate may itself be indicative of a lack of interest in regional sourcing among public procurers.

2.3. Mapping Procurement Demand to Supply

This section attempts to characterise the nature of food sourced by the UK public sector and therefore aid the understanding of its relationship with regional supply capacity. The typical nature of direct (Tier 1) supply arrangements can be drawn from both the procurement survey and contract notice analysis. Although considerable variation can be observed, in the cases where procurement arrangements are handled in house or through the use of purchasing consortia, there are four types of typical wholesaler: Fruit and Vegetables; Fresh Meat, Dairy and Dry goods. In practise this latter category typically acts as a 'catch all' for product needs not covered by other contracts. It can also include frozen foods and bread, although these can also be contracted separately.

The four Tier 1 categories have been adopted for this procurement mapping exercise. Each area of activity has an associated Standard Industrial Classification (SIC) code which is a classification system used by governments for defining types of economic activity. The SIC code system is a hierarchical numbering system with the broader designations having less digits in their code. Subsequent subsectors within each classification are assigned further digits. For example, food manufacturing is assigned the code (or division) 10. Under this there are 9 subsectors (known as groups) given codes 101-109, under each of these there are further subcategories. The system for fruit and vegetable processing is set out in Figure 8 as an illustration. Agriculture, under the definition of crop and animal production, hunting and related service activities is given the code or division 01, with a similar series of Groups and Classes.

Figure 8: The Standard Industrial Classification hierarchy for fruit and vegetable processing

Division 10	Manufacture of Food Products
Group 103	Processing and Preserving of Fruit and Vegetables
Class 1031	Processing and preserving of potatoes[5]
Class 1032	Manufacture of fruit and vegetable juice
Class 1039	Other processing and preserving of fruit and vegetables[6]

Using the SIC code nomenclature, each agriculture and food processing class has been reviewed and placed against the corresponding Tier 1 supplier classes to build a picture of principal product types that public sector contract holders directly source (known as Tier 2 suppliers). This mapping process is then extended by assigning agricultural class codes that can be assumed to typically supply Tier 2 businesses indirectly (requiring further intermediate and post farm processing which typically supply the public sector through the corresponding Tier 2 supplier category either as butchery or milling).

5 This class includes: processing and preserving of potatoes; manufacture of prepared frozen potatoes; manufacture of dehydrated mashed potatoes; manufacture of potato snacks; manufacture of potato crisps; manufacture of potato flour and meal; industrial peeling of potatoes.
6 This class includes: manufacture of food consisting chiefly of fruit or vegetables, except ready-made dishes in frozen or canned form preserving of fruit, nuts or vegetables: freezing, drying, immersing in oil or in vinegar, canning etc.; manufacture of fruit or vegetable food products; manufacture of jams, marmalades and table jellies; roasting of nuts; manufacture of nut foods and pastes; manufacture of perishable prepared foods of fruit and vegetables, such as salads, mixed salads, packaged peeled or cut vegetables, tofu (bean curd).

The result of this process is a simplified map of typical relationships between public sector food demand, supply chain intermediaries, food processors and primary producers, as set out in Figure 9.

Figure 9: Typical supply relationships in UK public food procurement mapped according to Standard Industrial Classification (SIC) Codes

Typical Direct (Tier 1) Suppliers	Potential Indirect (Tier 2) Suppliers
Wholesale of fruit and vegetables (4631)	Growing of vegetables and melons; roots and tubers (0113)
	Growing of pome fruits and stone fruits (0124)
	Growing of other tree and bush fruits and nuts (0125)
	Processing and preserving of potatoes (1031)
	Manufacture of fruit and vegetable juice (1032)
	Other processing and preserving of fruit and vegetables (1039)
Wholesale of meat and meat products (4632)	Processing and preserving of meat (1011)
	Processing and preserving of poultry meat (1012)
	Production of meat and poultry meat products (1013)
	**Raising of other cattle and buffaloes (0142)*
	**Raising of dairy cattle (0141)*
	**Raising of swine/pigs (0146)*
	**Raising of poultry (0147)*
	**Mixed farming (0150)*
Wholesale of dairy products; eggs, edible oils, and fats (4633)	Manufacture of ice cream (1052)
	Operation of dairies and cheese making (1051)
Non-specialised wholesale of food; beverages and tobacco (4639)	Manufacture of oils and fats (1041)
	**Growing of cereals; leguminous crops and oil seeds (0111)*
	Manufacture of grain mill products (1061)
	Manufacture of bread; manufacture of fresh pastry goods and cakes (1071)
	Manufacture of rusks and biscuits; preserved pastry goods and cakes (1072)
	Manufacture of macaroni; noodles; and similar farinaceous products (1073)
	Manufacture of cocoa; chocolate and sugar confectionery (1082)
	Processing of tea and coffee (1083)
	Manufacture of condiments and seasonings (1084)
	Manufacture of prepared meals and dishes (1085)
	Manufacture of homogenised food preparations and dietetic food (1086)
	Manufacture of other food products n.e.c. (1089)

** Indicates potential indirect suppliers through intermediary processors*

The procurement supply map on the previos page forms the basis for analysing and interpreting food business statistics collected and made available by the Office for National Statistics on behalf of the UK government. It is therefore the primary framework that will be adopted in the following sections which look at the nature of regional supply in the UK.

3. Understanding Regional Supply Capability in the UK

Having built a picture of typical public sector food demand and associated procurement structures in the UK, this section looks at the domestic supply of food from manufacturers and primary producers and, in particular, what information is available at the regional level. Unless otherwise indicated, the data in this section is based on official numbers of business units. This focus on numbers of producers rather than volume of output is dictated by the availability of data. A key assumption for the validity of this data is that businesses either have existing productive capacity or can scale up capacity to meet the required volumes from regional procurement demand. For this reason, the data in this sector largely maps 'competency to supply' within the food sector rather than actual supply.

3.1. Heterogeneity in UK Food Supply

In terms of numbers of business units, UK food supply is highly geographically diverse. All the major forms of food production occur in all regions of the UK to some degree. This is illustrated in Figure 10 below, which lists numbers of businesses in a selection of agricultural and food manufacturing groups across the English regions and three devolved nations in the UK. The shaded boxes indicate that regions that have particularly high numbers relative to the sector as a whole. Even regions which lack numbers of businesses compared to others will contain some very large manufacturers (for example in the North East and Yorkshire).

Figure 10: Regional breakdown of numbers of primary producers and food manufacturers

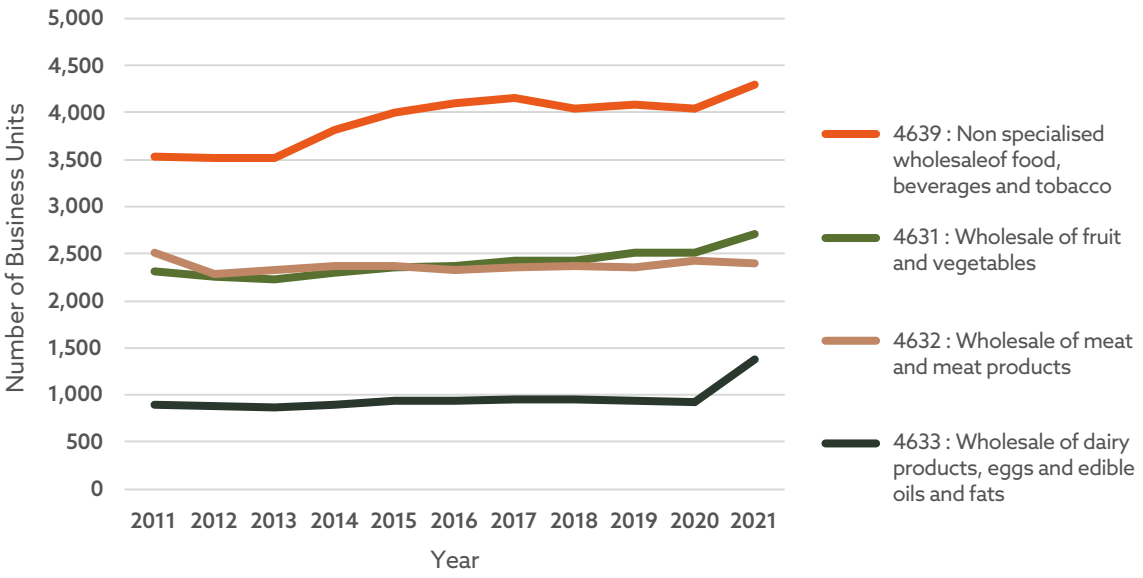
	Primary Production			Food Manufacturing				
	Fruit/Veg	Animals	Fishing	Meat	Fruit/Veg	Dairy	Other	Beverages
North East	830	1,900	115	30	10	20	65	85
North West	1,685	7,055	65	130	50	95	230	240
Yorkshire	3,270	4,770	175	90	50	50	180	225
E Midlands	4,250	3,570	40	65	35	45	155	165
W Midlands	2,790	5,840	15	125	55	40	160	195
East	6,100	2,100	160	90	70	40	195	200
London	180	155	15	95	110	90	520	370
South East	3,310	3,860	235	85	75	75	325	370
South West	4,180	12,135	620	75	65	115	235	315
Wales	255	8,305	180	60	20	55	105	125
Scotland	1,060	7,180	1,910	95	35	55	155	370

n.b. figures rounded to the nearest 5.

3.2. Medium Term Food Supply Trends

Another aspect of capacity to supply is the pattern of growth or contraction in business numbers. Using the procurement mapped supply categories identified in the previous section, we can some clear patterns at the UK level. Figure 11 below illustrates that numbers of Tier 1 category businesses have remained largely consistent over the past decade.

Figure 11: Numbers of Potential Tier 1 Suppliers in the UK 2011-21



Among key Tier 2 sectors, there is some clearer variation in percentage change over the same period. Notably, the numbers of vegetable growers, pome, and stone fruit growers[7] and dairy farmers in the UK have both fallen significantly over the past decade (by 9.3%, 19.3% and 17.5% respectively). Among processing categories, the number of poultry processors has fallen by a third and manufacturers of meat and poultry products by a tenth.

Figure 12: Percentage change in numbers of business for key procurement sectors 2011-2021

Primary Production		Processing	
Vegetable Growing	-9.3	Processing and preserving of meat	+10.4
Pome and Stone Fruits	-19.3	Processing and preserving of poultry	-33.3
Dairy Farming	-17.5	Production of meat and poultry meat products	-10.0
Beef Farming	13.4	Processing and preserving of potatoes	+33.3
Pig Farming	27.1	Processing and preserving of fruit and vegetables	+36.3
Poultry Farming	9.1	Dairy Processing	+15.2
Mixed Farming	-1.0	Bakeries	+25.9
		Prepared Meals and Dishes	+204.2

7 Essentially non soft fruit, including apples, pears, plums, cherries etc.

The drop in poultry processors is likely to be example of concentration in a sector rather than contraction as poultry meat product has risen in volume by over 25% over the same period[ix]. Similarly, the number of dairy cows in production has risen slightly (by 2.5%) during this period[x]. UK vegetable production, on the other hand, has shrunk in line with the decrease in numbers of businesses, with 113 thousand hectares in vegetable production in 2021 compared with 129 thousand in 2011 (a drop of just under 12.5%)[xi]. Pome and Stone fruit production output statistics, however, have remained fairly consistent with 23 thousand hectares in production in 2021 compared with 24 thousand in 2011[xii]. The remaining sectors show reasonable or good growth in business numbers, apart from the number of mixed farming enterprises which has decreased by around one percent. Taken together, the comparison between business numbers and output illustrates that sectors may appear vibrant based on overall value or output volume but contain hidden socioeconomic impacts such as the detrimental changes in the numbers, sizes, and locations of businesses.

Regarding the food manufacturing sector, however, these aggregated statistics for business numbers at a UK level, indicate a sector that is largely growing in terms of numbers of businesses. This is reflected by a consistent growth in Gross Value Added in the food sector (excluding agriculture), increasing by 27.4% between 2010 and 2020, with a latest estimated contribution of £28.8bn to the UK economy in 2020[xiii].

3.3. Regional Analysis

To better understand regional variation, this study has focused on data from three distinct sub- regions in the UK: The official region of South West England; the metropolitan county and combined authority of Greater Manchester; and the country of Northern Ireland. These three areas were adopted because they each have distinct characteristics relating to food production and consumption that provide an element of comparative analysis and a greater understanding of the generalisation of findings. These characteristics are summarised in Figure 13.

Figure 13: Regional comparison

	South West England	Greater Manchester	Northern Ireland
Description	Strong and varied agricultural sector with good supporting infrastructure. Predominantly rural with few devolved powers.	A large metropolitan region, some farming communities. Some devolved power and collaborative local government including procurement.	A strong agriculture sector dominated by the dairy sector. A rural and urban population balance with relatively strong devolved powers.
Population & Demographics	• Population estimate: 5.3m (2011) • Ranked 6th of 9 English regions • Pop. Density 580 people per square mile	• Population estimate: 2.8m (2019) • Ranked 3rd of 48 Ceremonial counties • Pop. Density 5,710 people per square mile	• Population estimate: 1.9m (2019) • Ranked 4th of 4 constituent countries in the UK • Pop. Density 345 people per square mile
Government Structure	6 counties, 15 unitary authorities / councils, 41 local authorities. 12 NUTS3 statistical regions.	1 regional combined authority 10 metropolitan boroughs 5 NUTS3 statistical regions	1 legislative body 6 historic counties, 11 districts 5 NUTS3 statistical regions
Geographical Area	9200 square miles	493 square miles	5460 square miles

This section sets out publicly available data for each of those regions, plus the UK as a whole, where appropriate. As stated in the previous section, most of the quality is limited to business counts provided by ONS sources such as the official census and labour market statistics and interdepartmental business register. Moreover, these are only available at geographic areas for which the numbers are large enough that details of individual businesses cannot be reasonably deduced. This non-disclosure rule means that the utility of government provided information is limited in absolute terms for studies of this nature. It is impossible to identify specific businesses or even precise numbers of businesses at the regional level using government backed statistics.

Given a lack of supporting data, such as volume of outputs, specific products produced, supply chain relationships and willingness to supply the public sector, analysis of this nature can only be used to build a general picture of regional supply capabilities and identify potential deficiencies. Moreover, several assumptions need to be made to arrive at any clear conclusions. These are stated below and in the proceeding sections where appropriate.

3.3.1. Business Numbers

Appendix B presents the numbers of food businesses as mapped against procurement demand for each region. This data, rounded to the nearest 5, indicates that on the whole businesses are present in each region that operate in all categories. Figure 14 below identified categories with 5 or less businesses in each of the regions, using data from ONS official census and labour market statistics (NOMIS), supplemented by data from the commercial FAME database published by the company Bureau van Dijk.

Figure 14: procurement subsectors with 5 or less businesses in each of the three study regions.

Region	Subsector
Northern Ireland	Growing of other tree and bush fruits and nuts* **5** (5)
	Manufacture of macaroni; noodles; and similar farinaceous products **0** (0)
	Manufacture of homogenised food preparations and dietetic food **5** *(3)*
South West England	Processing and preserving of potatoes **5** *(2)*
	Processing and preserving of poultry meat **5** *(3)*
	Manufacture of macaroni; noodles; and similar farinaceous products **0** *(3)*
Greater Manchester	Growing of pome fruits and stone fruits **0** *(0)*
	Growing of other tree and bush fruits and nuts* **0** *(1)*
	Processing and preserving of potatoes **0** *(1)*
	Raising of pigs 5 *(3)*
	Manufacture of macaroni; noodles; and similar farinaceous products **5** *(4)*

**i.e. excluding apples, other pome fruits and fruits with stones in them such as plums.*

n.b: figures in brackets are from the FAME database where NOMIS figures where are 0 or 5.

This data indicates, therefore, that there are only a few categories in each region with 5 or less businesses. As stated, this data does not indicate a willingness to supply or whether these businesses can meet the type, quantity, qualities, and costs required by the public sector. Given the sheer numbers of businesses operating in these categories, however, it would appear reasonable to assume a certain level of capability to supply across procurement demand categories.

3.3.2. Business Density

The scale of the food sector at regional levels clearly presents a degree of homogeneity in terms of numbers and sub-sectors that creates challenges for understanding public sector supply potential. The figures below probe further by unpacking density of businesses according to the population in each of the three case regions and nationally. Using the mapping of procurement demand, this analysis can be used to identify which subsectors are over or underrepresented in each region and which, therefore, may require targeting support or measures to ensure supply from outside the region (see Figure 15).

Figure 15: Population (1000s) per Unit for mapped procurement subsectors

	UK	NI	SW	GM
Growing of vegetables and melons, roots, and tubers	7	11	4	52
Raising of dairy cattle	5	1	3	63
Raising of other cattle and buffaloes	10	1	4	81
Raising of swine/pigs	44	17	28	567
Raising of poultry	21	4	12	189
Mixed farming	2	0	2	63
Processing and preserving of meat	157	54	141	189
Processing and preserving of poultry meat	514	189	1,125	567
Production of meat and poultry meat products	106	54	125	95
Processing and preserving of potatoes	835	189	1,125	n.a.
Other processing and preserving of fruit and vegetables	123	54	102	142
Operation of dairies and cheese making	147	76	66	189
Manufacture of bread; fresh pastry goods and cakes	20	12	19	20
Manufacture of prepared meals and dishes	183	95	225	142
Wholesale of fruit and vegetables	25	21	43	26
Wholesale of meat and meat products	28	29	45	22
Wholesale of dairy products, eggs, and edible oils	49	34	56	6
Non-specialised wholesale of food, beverages & tobacco	16	14	19	15

nb: n.a. = data not available due to disclosure risk.

Key:

- Significantly Low Density
- Low Density
- In line with UK Average
- High Density
- Significantly High Density

This method of analysis provides some clear evidence of under representation of subsectors in the regions. Greater Manchester, in particular, has a significantly low density of primary producers (farmers) compared with the UK average. It is also deficient in the number of potato processors and dairies compared to the UK average. Northern Ireland proves itself to be well endowed across all subsectors, compared to the UK average, with the exception of vegetable growers. Perhaps surprisingly, South West England has a low density of all wholesalers except dairy and a significantly low density of poultry processors. On the whole however, this form of analysis backs up the view that in general regions have capability across all the mapped subsectors.

Similar analysis can be done for business turnover for subsectors with high enough numbers of avoid disclosure risk at the regional level. Data is therefore unavailable for Greater Manchester and limited to the four Tier 1 categories plus five higher level consolidated categories that incorporate the mapped subsectors alongside other, usually minor sectors. Turnover per person is a potentially useful proxy regarding procurement demand as it can be assumed that demographics, such as the proportion of the population at school age, will be consistent across regions due to numbers involved. By providing an indication of the size of output it provides additional detail alongside the business count analysis, whilst not being comparable due to different category definitions. Using this approach, however, indicates that the South West of England has significantly lower than UK average turnover per person for fruit and vegetable processing and bakeries as well as three of the four Tier 1 categories identified by the number of unit analysis above.

Table 16: Turnover per person

	UK	NI	SW	GM
Growing of non-perennial crops	186	76	246	
Processing and preserving of meat and production of meat products	295	1352	84	
Processing and preserving of fruit and vegetables	107	80	20	
Manufacture of dairy products	148	321	229	n.a.
Manufacture of bakery and farinaceous products	148	210	40	
Wholesale of fruit and vegetables	175	122	68	
Wholesale of meat and meat products	162	328	84	
Wholesale of dairy products, eggs and edible oils and fats	84	346	53	
Non-specialised wholesale of food, beverages, and tobacco	492	664	259	

Key:

- Significantly Low Density
- Low Density
- High Density
- Significantly High Density

3.3.3. Regional Production Dynamics

This section looks at the size and 10-year trend in key production sectors in each region. Figures are rounded to the closest 5 in order to avoid attribution. The tables illustrate the presence of producers in each of the key activities within food manufacturing and primary production. As outlined above, even the predominantly metropolitan region of Greater Manchester has between 5 and 55 (rounded) primary producers operating in each category. Whether there is enough of these businesses who are willing and able to supply the public sector is a question for conjecture. This analysis does, however, indicate potential capability to supply.

Figure 17: Procurement mapped sector population and change in Greater Manchester

	Numbers of Units	Change (2011-21)	
		Number	Percentage
Primary Production			
Vegetable Growing	55	+5	+10
Dairy Farming	45	0	0
Beef Farming	35	-20	-36
Pig Farming	5	0	0
Poultry Farming	15	-5	-25
Mixed Farming	45	-35	-44
Processing			
Processing and preserving of meat	15	+10	+200
Processing and preserving of poultry	5	0	0
Production of meat and poultry meat products	30	+5	+20
Processing and preserving of potatoes	0	0	0
Processing and preserving of fruit and vegetables	20	+5	+33
Dairy Processing	15	+5	+50
Bakeries	140	+20	+17
Prepared Meals and Dishes	20	+15	+300

Figure 18: Procurement mapped sector population and change in South West England

	Numbers of Units	Change (2011-21)	
		Number	Percentage
Primary Production			
Vegetable Growing	1495	+215	+17
Dairy Farming	1905	-530	-22
Beef Farming	1435	-360	-20
Pig Farming	200	+30	+18
Poultry Farming	475	-110	-19
Mixed Farming	3300	-1020	-24
Processing			
Processing and preserving of meat	40	-5	-11
Processing and preserving of poultry	5	0	0
Production of meat and poultry meat products	45	-20	-31
Processing and preserving of potatoes	5	0	0
Processing and preserving of fruit and vegetables	55	+10	+22
Dairy Processing	85	+10	+13.3
Bakeries	290	+40	+16
Prepared Meals and Dishes	25	+5	+25

Figure 19: Procurement mapped sector population and change in Northern Ireland

	Numbers of Units	Change (2011-21)	
		Number	Percentage
Primary Production			
Vegetable Growing	165	-40	-20
Dairy Farming	3555	-480	-12
Beef Farming	1650	+1405	+573
Pig Farming	110	+60	+120
Poultry Farming	445	+225	+102
Mixed Farming	6755	+1170	+21
Processing			
Processing and preserving of meat	35	0	0
Processing and preserving of poultry	10	-5	-33
Production of meat and poultry meat products	35	-5	-12
Processing and preserving of potatoes	10	-5	-33
Processing and preserving of fruit and vegetables	35	+5	+17
Dairy Processing	25	-10	-29
Bakeries	160	+15	+10
Prepared Meals and Dishes	20	+15	+300

The 10-year change analysis suggests a large degree of flux at the regional level, particularly for sectors with low numbers of businesses operating. This indicates a degree of risk associated with developing a reliance on regional food producers. Even if there are enough willing businesses to commence such arrangements, subsectors which over rely on a small number of businesses may suffer if those firms exit. Broadly speaking, numbers of primary producers have reduced across primary production in both Greater Manchester and South West England over the past decade. This pattern has not been witnessed in Northern Ireland, however, except dairy and vegetable production, where the livestock sector has grown strongly. This situation is reversed somewhat for the manufacturing sector where Greater Manchester and the South West have largely grown across the mapped categories, whereas numbers in Northern Ireland have fallen. In all three regions, the numbers of prepared meal manufacturers and bakeries have grown, reflecting broader consumption habits.

4. Exploring Challenges and Opportunities to Connecting Public Demand to Regional Supply.

A series of experts were engaged over the course of this work in order to understand both regional supply and regional food procurement better and crucially explore the interaction between both. These issues were explored with 21 experts, including 9 representatives of businesses actively involved with regional food supply into the public sector. This section aims to categorise and explore the key themes to come out of this engagement as it relates to barriers and potential opportunities to connect supply and demand at the regional level. This is then followed by a concluding section which discusses latent potential and puts forward recommendations for further action in this area.

4.1. Complexity and Lack of Transparency as a Barrier to Entry

Supplying the public sector presents some distinct challenges for regional businesses compared with other routes to market. Procurement processes and resulting contracting arrangements are generally regarded as much more complex compared to private sector supply, particularly at the regional or local level. One producer reported in detail assurance requirements required by public procurers that are not necessary for their private sector customers. Instead, success with other trade customers is seen to rely on aspects such as reputation, product quality and reliable service experience. As barriers to entry are lower for commercial customers, supply relationships will often begin on a trial basis, or without formal long-term commitment, which enables positive experience and therefore trust to build up.

More generally, regional, and local supply encourages the development of personal relationships and stronger business to business relationships that negate the need for codified forms of quality assurance such as certification and contracts. Business relationships are instead built on a form of trust. This advantage appears to be largely missing from equivalent public sector supply at the regional level. Sector representatives suggested that communication with buyers is an issue prevalent in the public sector. Relative to retail or hospitality, it can be much more difficult to find the right people to talk to and build the kinds of relationships required to understand and service procurement opportunities.

4.2 . Public Procurement as an Alternative Route to Market for Regional Food Businesses

For regional food producers able to provide high volume low margin products, public procurement offers a valuable alternative to supplying supermarkets, processors, or food service distributors. As an example, a relatively small dairy interviewed for this research supply schools and hospitals in the region alongside retail customers and a doorstop delivery service. This differentiated model of supply offers businesses greater security through multiple sales channels. In the case of the dairy sector, this appears to be a model adopted, or evolved into, by many smaller regional dairies across the UK as the consumer retail market moved towards supermarket dominance.

From a strategic perspective, greater public procurement supply can therefore act as a competitive counterpoint to the multiple retail sector. This is particularly the case for the fresh produce sector where supermarkets are the dominant market for UK growers. British supermarkets are notorious for having high standards for the cosmetic appearance of fruit and vegetables which results in significant inefficiencies as produce is routinely rejected. Greater supply channels into public procurement can both create an outlet for produce that does not meet this standard, and provide a more diverse customer base for growers, reducing their risk.

4.3. Matching Scale of Supply with Demand

Finding opportunities where volume of demand is in line with capacity to supply was identified as a challenge for both regional food producers and procurers. As illustrated in the procurement survey, purchasing authorities tend to purchase high volumes of food. A Tier One supplier operating at the national level stated that their biggest challenge with sourcing from more regional suppliers is the amount of volume that can typically be provided. Some respondents stated, however, that local procurement presents an opportunity somewhere between the high volumes of supermarkets and independent shops, wholesalers etc.

Moving towards regional procurement systems that extend to the primary producer, rather that stalling at Tier 1, would present serious supply challenges. In addition to limitations of what can be grown in UK regions, chicken and pork were identified as being limited in supply at scale and appropriate cost for the public sector at the regional level. This assessment appears to be reflected in the statistics. As outlined previously UK self-sufficiency for pork meat is around 66% whilst the number of poultry processors has decreased by a third over the past 10 years. Both the production and consumption of poultry meat has increased over this period, indicating a concentration of poultry processing in the UK to a smaller number of high output production plants. A large proportion of pork has traditionally been imported, from countries such as Denmark and to a lesser extent Germany and the Netherlands. The wider market trend towards buying British food has been satiated in part by rules such as allowing bacon from pigs reared overseas to be labelled as British if they have been cured in the UK.

4.4. Appropriate Purchasing Structures

The pros and cons of using purchasing frameworks was discussed, particularly in the context of emerging models of dynamic food procurement (see below). Conventional centrally negotiated purchasing frameworks, where buyers can access pre-negotiated supply contracts, are advantageous, particularly for purchasers without the capacity to run or manage their own contracting processes. The hospital market, for example, is mostly accessed by suppliers through NHS framework agreements which often allow businesses to operate at a regional or subregional basis under the larger national level procurement agreement.

It was observed, however, that any commercially run framework agreements, or similar intermediary models, add a degree of cost through the built-in management fees that are required to run the service. Some suppliers must increase the price accordingly to cover this additional cost. More broadly, traditional framework agreements can also be seen as disadvantageous for producers as they increase the leverage of purchasers through pooling demand. This can put pressure on supply margins due to higher competition for contracts among potential suppliers. Of course, cost pressure on suppliers is, in theory at least, advantageous from the perspective of taxpayers and the cost of public services.

Food service wholesale distributors can be regarded as similar to a purchasing framework in that they mediate between producers and purchasers and charge a 'management' cost, which could be avoided by supplying direct. The advantage for regional producers is that wholesalers also distribute products though consolidated supply arrangements.

Opportunities associated with the introduction of dynamic procurement systems were frequently raised through the course of this study. Dynamic procurement systems are supply frameworks underpinned by an online purchasing platform that allows suppliers that meet qualifying criteria to access the framework and supply the public sector at volumes and times that suit their needs[xiv]. As such, barriers to entry are much lower than traditional tendered contract arrangements or conventional framework agreements. This model has been applied successfully in the South West of England and forms the basis of work by Crown Commercial Services (a government agency that is the largest public procurement agency in the UK) through the Buying Better Food initiative to open opportunities for SMEs to supply the public sector.

4.5. Support Needs for Regional Producers

Although unanimously viewed as a positive development, concerns were frequently expressed that the implementation of such models requires adjustment support for producers, particularly those new to public procurement, as well as support to procurers and end users in order to effectively cope with the potential variation in supply that these models can accommodate. Concerns were also raised from the fresh produce perspective that dynamic procurement systems may not offer enough assurance to influence the production plans of growers. Compared to more conventional contractual arrangements, where growers know that if their produce meets the required specifications, it will be purchased, flexible frameworks risk being perceived as containing additional risk if the exact nature and level of demand is not perceived as robust enough.

A lack of information about potential regional partners was cited frequently by producers, suppliers, and procurers. Existing Tier 1 suppliers suggested that a lack of knowledge about the existence and suitability of suppliers is a barrier for them sourcing more regionally. As outlined above, producers are often unaware of who they should approach or how they should approach them within the public procurement sector. The value of comprehensive and accurate supplier databases was put forward by multiple interviewees as a potentially important source of support. Together this suggests that there is a lack of effective facilitation between potential regional partners that holds back the development of this activity.

Producer representatives cited the importance of creating an investment friendly environment to facilitate a shift towards greater regional sourcing. For example, one food distributor suggested that a greater shift to regional sourcing would require investment in distribution centres in some areas in order to remain economically efficient. Reliable and cost-effective distribution is regarded as key to the commercial viability of regional food systems. High volume low margin food supply, by definition, relies on the minimisation of cost in the system. In a competitive environment, and broadly within the existing levels of budgetary restraint in public sector food supply, excessive distribution costs will render regionalised solutions economically unviable. Without facilities to consolidate supply deliveries across high numbers of schools and other public sector food outlets many smaller producers would run into logistical challenges that would undermine their economic sustainability. Private sector businesses willing to fill distribution gaps such as these require assurance and support in order to justify the required investment.

In short, among business operators, confidence in a stable and predictable business environment, public procurement or otherwise, is regarded as key to eliciting the levels of investment required to produce a shift towards regional food systems. The emphasis within this approach should be on facilitating market change rather than controlling it.

4.6. Proposed New Government Buying Standards

The emphasis within the proposed new government buying standards for public institutions to be required to source at least 50% of products from local or environmentally beneficial businesses was a frequent focus of discussion. Broad support for this approach was unanimous among regional suppliers, with some provisos. A repeated refrain was that 'the devil will be in the detail' in terms of understanding the impact of such a policy on business opportunities. It also was noted, for instance, that this could be a barrier for businesses with aspirations or supply relationships outside of their local area. A higher level of paperwork was also foreseen as a consequence of formalising this requirement due to the need to provide the required evidence. It was suggested that this could favour larger businesses who have the economies of scale to implement traceability reporting systems.

A specialist in distributing local produce suggested that any moves towards greater local or regional sourcing by the public sector would be hampered by price and supply fluctuations that are more prevalent in fresh produce and small-scale production. This is even more of an issue in a seemingly more unstable market environment as experienced in recent years due to covid, Brexit, the cost-of-living crisis etc. In their experience, public sector buyers are less willing or able to accommodate changes in price than their commercial businesses.

In addition, potential conflicts were also suggested with other government environmental priorities such as carbon emissions reduction. It was stated that local produce does not necessarily have a smaller carbon footprint even though food miles are lower. The importance of clear priority setting was cited with regard to procurers developing contract specifications and award criteria and businesses attempting to win the resulting supply competitions.

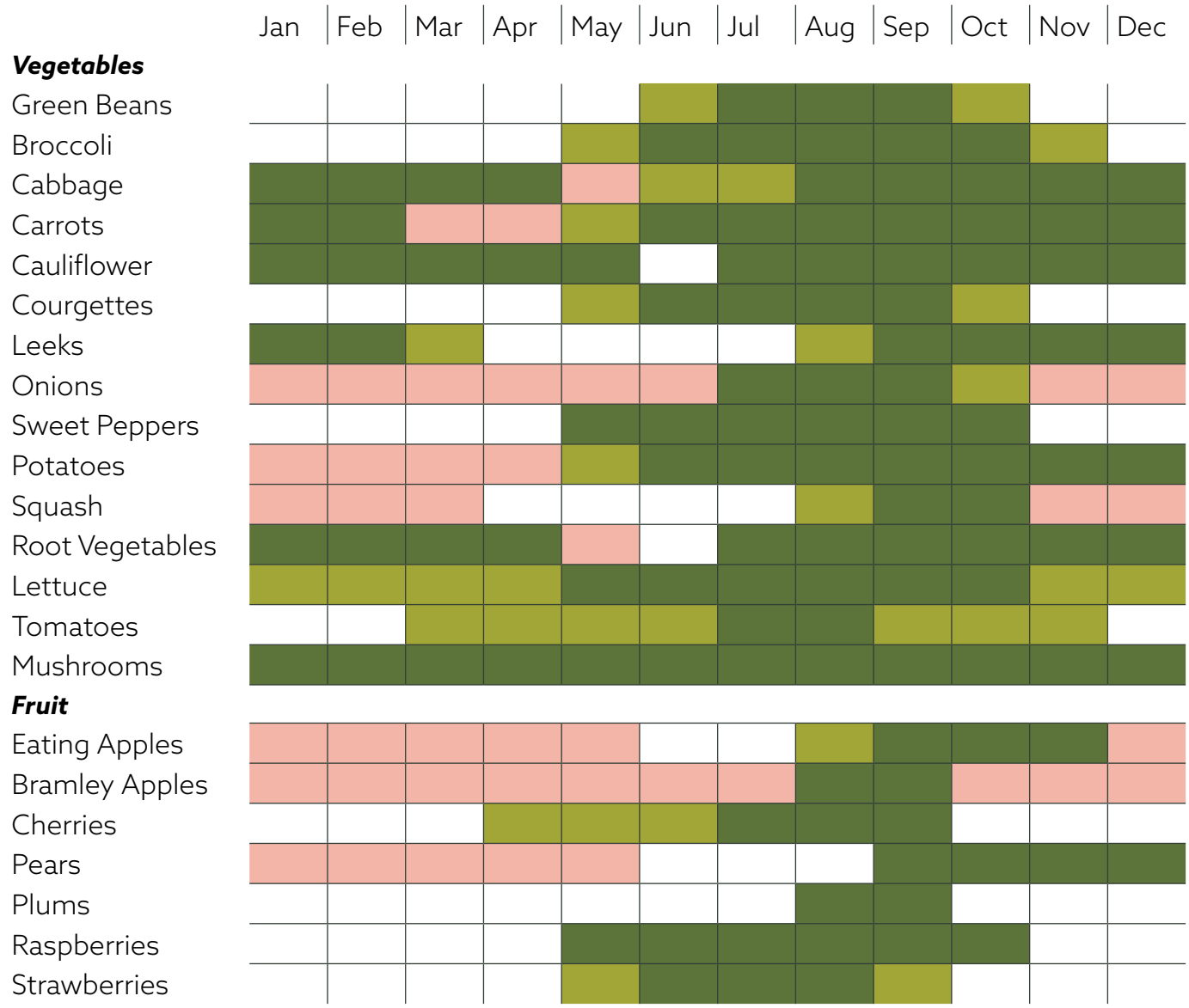
4.7. The Competitive Importance of Prices

There is a clear perception among suppliers that price often remains the de facto deciding factor for contract award decisions. It was suggested that even when there are weighted decision criteria related to quality, locality, social value etc, the starting and end point is the price. The other criteria can be perceived as being part of a box ticking exercise to facilitate the desired outcome. This is ultimately due to the fact that budgets for high volume food procurement, such as schools and hospitals, are invariably tight. For one tier 1 supplier, the price differential for supplying smaller scale regional food is usually so high that they perceive it does not matter how well they do for other quality criteria as they will not outweigh the cost factor compared to offer provided by large national suppliers. In this respect, it appears that budgets available to procurers would have to either increase or the nature of demand (i.e., recipes, menus etc) change to cover potential increases in cost associated with a wholesale shift towards regional sourcing.

4.8. Overcoming Seasonality

Seasonality in the fresh produce sector is identified as a key challenge to a fundamental shift towards greater regional sourcing. As Figure 20 on the following page highlights though, based on industry data compiled by the London wholesaler market New Covent Garden Market, a good range of UK produce is available year-round to trade customers, particularly with respect to vegetables. Stored apples and pears ensure that domestic fruit is also available across the year. The challenge of seasonality could more accurately be described as the availability of seasonal food at the price points required for public sector catering. As outlined by an interviewee, much existing UK produce is claimed by the supermarket sector. The seasonality chart does demonstrate that year-round fresh produce is possible with the required infrastructure and support. Growing more under cover and adopting other aiding technology, existing and emerging, provides the potential to significantly develop UK horticultural outputs across the country, as set out in the Government Food Strategy (see next Section). Policy makers should make sure that public procurement is both accommodated by this strategic focus and used as a market development driver for regional producers in this sector.

Figure 20: UK Commercial Seasons for Selected Fruit and Vegetables



Source: New Covent Garden Market[xv]

Key:

In season

Extended Season*

Available from Store

* = produce coming in or out of season or available grown undercover.

With regard to the supply of meat, although this is not by and large seasonal, except for lamb, much UK output that is produced at scale is currently channelled through the large retailers. Supermarkets have the buying power to secure these attributes that are deemed desirable by consumers in retail settings when purchasing fresh produce. The impact of this is that the sourcing of British or regional meat and other fresh produce is more difficult for hidden parts of the food system such as the processing sector or catering.

In summary, there was a broad consensus among regional supply chain participants and advocates about the key challenges and opportunities for the sector to supply food to public institutions in their region. It suggests that there are some common issues around which support for greater levels of regional sourcing can be built.

5. Discussion and Recommendations: What Needs to Be Done to Unlock Regional Potential?

Notwithstanding the data challenges presented by this research topic, a clearer picture has emerged of the prevailing nature of regional food production and public sector food demand in the UK. This section attempts to draw some conclusions and recommendations from this work, particularly in the context of the UK Government Food Strategy published in June 2022[8].

The analysis set out in this report indicates that, on the whole, regional food businesses are able to supply public sector food procurement needs. The procurement survey and OJEC analysis indicates that many public institutions already purchase food from regional suppliers. A significant supply gap exists however, between these first tier suppliers and regional food producers. The ultimate origin of most food used by the public sector is outside of the respective region. **Connecting regional producers to public sector procurers, either as second tier suppliers, or through direct supply should be a priority**. Regional food producers therefore need to be primed and supported in order to meet the potential.

At the regional level, supply capabilities are generally broad and flexible. Where infrastructure gaps exist, non-local alternatives are available with a small knock-on cost. The availability of regional food therefore depends to a large part on what is defined as regional – the larger the area the greater the capability. These are largely political decisions as the optimal 'size' from social and environmental criteria varies and is largely subjective (ie based on values). For example, the region could be measured in direct distance, driving time, topography, cultural identification etc.

In terms of modulating demand, contract design processes can be sophisticated enough to ensure that procurers can purchase whatever is asked of them. Therefore budget, 'quality' criteria and menu / provision design are vital components. They are also, however, largely policy or political decisions. This study has found that procurement contract holders tend to be regionally based for the main contract types. National wholesalers tend to mop up other products through sophisticated 'wholesale' supply or provision of own label products. Assessing local supply should focus on the ability of first tier suppliers and food processors to integrate local sources. By and large this cannot be divined by business demographic data.

Overall **support for this agenda should come through the roll out of flexible opportunity building procurement such as through dynamic food purchasing systems as well as the provision of incentives through post-EU policy reform** (Shared Prosperity Fund, ELMs and other post CAP support, Government Buying Standards for Food and Catering). Importantly, data deficits must be addressed in order to facilitate the evolution in policy and practice required. This research has highlighted the lack of data and / or access to data throughout the food system. Public sector food procurement is no exception to this, despite being laden with higher probity demands as a spender of taxpayers' money and provider of a key public service.

8 Government Food Strategy https://www.gov.uk/government/publications/government-food-strategy

With regard to the vitality of regional food production capacity, the loss of fruit and vegetable producers over the past decade highlighted in this report is part of a longer-term trend that has seen the demise of market gardens around the UK as part of a concentration of production and a broadening of consumption habits to types of produce grown overseas[xvi]. Similarly, dairies and abattoirs, in particular, have suffered from long term trends to rationalise for the benefit of economies of scale. The UK Parliament All Party Group for Animal Welfare, for example, have highlighted the post-war loss of small-scale abattoirs across the UK. There are thought to be around 250 remaining, of which around 50 specialise in red meat. This can be compared with around 30,000 small abattoirs in the 1930s. Despite the falls in numbers of businesses operating in these key sectors, the data presented in this report indicates that primary production in the UK remains relatively dispersed. There is, therefore, a base around which to regrow regional food economies.

The public procurement system clearly offers particular opportunities as a market-based driver to support this renaissance. For fresh produce, for example, a joined-up strategic approach that links food procurement demand to menu design in public settings could support nascent and restructuring regional producers by:

1. Aligning demand with availability through the incorporation of seasonality.
2. Incorporating lower graded produce into recipes that would otherwise be unacceptable to consumers when eating whole.
3. Providing flexible systems to incorporate produce rejected by multiple retailers.
4. Assuring a source of reliable demand to encourage forward planning and investment.

A strategic shift in fresh produce output, whether through existing growers increasing or changing what they grow or new regionally based producers entering the market would require businesses to bare types of risk particular to the sector. Tree and bush fruits (such as apples, pears, plums etc) require extended periods before the plants are mature enough to fruit, for example. The vagaries of cosmetic quality requirements largely resulting from exposure to variations into seasonal weather patterns provides a level of unpredictability fairly unique to food production. In addition, fresh produce have high senescence rates meaning that products go 'off' relatively quickly. Dealing with this require storage infrastructure and timely routes to market. The last vital component is that much fruit and vegetables require seasonal labour to harvest.

Pears are an example of a product with significant potential to be supported by public procurement. Pear production in the UK is much lower than demand largely due to commercial viabilities associated the requirement to consistently produce Grade 1 produce for supermarket consumers and a lack of outputs for lower grade (smaller, blemished) fruit. Demand for pears as ingredients in commercial food processing is not high. In theory the public sector could absorb lower grade pears as ingredients in desserts, smoothies etc as well as

providing them whole for consumers. Smaller sized pears that would not meet supermarket grades would appear suitable for children, for example. Such an approach in the educational sector could also be harnessed to shift consumption habits in the UK over the long term away from cosmetically perfect fruit and vegetables.

Regional processing infrastructure for fresh produce is a parallel element that can act as both sources of demand for lower grade produce as ingredients for processed products and act as a conduit between growers and public procurers through the availability of appropriate post-harvest processing such as cleaning, sorting, bagging and also pre-preparation (peeling, cutting, parboiling etc). Existing post-harvest processing infrastructure is understandably concentrated around the main horticultural production areas in the UK. Indeed, according to one respondent, much produce is transported round the country for packing etc. A move to greater and more regional fruit and vegetable production in the UK, as highlighted in the Government Food Strategy needs to be accompanied by processing and other infrastructure development.

Flour mills are another example of a key part of the food supply sector which are poorly represented in terms of numbers and geographical spread, hindering the scope for regional production. The 2021 UK Food Security Assessment estimates that British growers provide over 90% of UK wheat demand. According to the UK Flour Millers Association there are 32 millers in the UK, operating 51 mills. Typically, 80-85% of flour produced by this sector comes from UK grown wheat[9] (UK Flour Millers). There are also, however, dozens of artisan millers around the country who produce flour with limited capacity who are not members of the UK Flour Millers Association (see footnote[10]). Like many sectors, however, production is dominated by a small number of large producers. The four largest millers, in fact, account for 65% of UK production. High volume commodified production has economies of scale which, in turn, favour high volume customers such as large bakers, food manufacturers and food service companies. As a consequence, as with many other parts of the food industry, buying flour from artisanal producers is more expensive. A spot review of advertised prices for catering sized strong white flour conducted in May 2022 indicates around a 50% increase in cost between 16KG bags (see Figure 21). Although advertised prices and negotiated prices available to caterers from procurement contracts can often differ, this illustrates the potential impact on public sector catering budgets when switching to smaller regional producers.

9 UK Flour Millers Association (previously the National Association of British and Irish Millers) https://www.ukflourmillers.org/flourmilling
10 The SourDough School https://www.sourdough.co.uk/british-artisan-flour-mills-by-region/

Figure 21: Advertised costs for 16KG bags of strong white flour

Product Name	Cost /16kg bag	Source
Industrial Millers		
Country Range Strong Bread Flour	£10.99	Foodservice Direct website
Sovereign Bread Flour	£11.99	Saveco Online website
Artisanal Millers		
Nelstrops Traditional Strong White Flour	£15.50	Millers own website
Shiptons Bakers White Bread Flour	£15.50	Millers own website

NB Prices as of 21st May 2022

Price differentials such as these create an effective barrier to supply rather than a barrier due to lack of availability. Regional food procurement in this case becomes an issue of food access rather than food supply. In other words, the barrier is not that regional food is not available it is that it cannot be afforded under existing public procurement budgetary restraints. Defra recently calculated, as part of the consultation evidence for the Government Buying Standards for Food and Catering (see below) that price premiums for local and higher environmental standard products are typically around 10% for meat, 20% for fruit and vegetables, 14% for free range eggs and 15% for fair trade products[11].

The UK government appears to have woken up to the importance and potential of the UK food sector. The Government Food Strategy affirms that the food and drink industry 'has an important role to play' in the wider UK levelling up agenda. Whether this recognition survives the churn of high office remains to be seen, of course. Nonetheless, two of the three stated objectives of the Government Food Strategy chime directly with the remit of this study: a secure food sector that provides "good quality jobs around the country" and consumer access to products that support "healthier and home-grown diets for all" (see Figure 22 for Objectives in full). Further to this, the strategy includes the intent to rise levels of pay, employment, productivity, and skills training 'in every area of the UK'.

11 Defra Consultation on possible changes to public sector food and catering policy, Annex 2 – Summary of costs identified in the De Minimis Assessment https://consult.defra.gov.uk/public-sector-food-procurement/food-and-catering-consultation/supporting_documents/Annex%202%20%20Summary%20of%20costs%20identified%20in%20the%20De%20Minimis%20Assessment%20%201.pdf

Figure 22: UK Government Food Strategy Objectives 2022

> ***"The objectives for this strategy are to deliver:***
>
> - a prosperous agri-food and seafood sector that ensures a secure food supply in an unpredictable world and contributes to **the levelling up agenda through good quality jobs around the country**
> - a sustainable, nature positive, affordable food system that provides choice and **access to high quality products that support healthier and home-grown diets for all**
> - trade that provides export opportunities and consumer choice through imports, without compromising our regulatory standards for food, whether produced domestically or imported"
>
> **Government Food Strategy, June 2022.**

Note: Emphasis added.

The strategy asserts that overall levels of food production should be broadly maintained but that strategic investment is required in specific sectors such as horticulture and seafood. As set out in this study, horticulture one of the clearest examples of both production gaps and an overall decline in the capacity of the sector to meet UK consumption needs. Historically, support for horticultural production has been far outweighed by support for arable and livestock production, largely due to the EU Common Agricultural Policy. **Existing horticultural support mechanisms, such as the producer organisation scheme, should be reinforced and better oriented towards supporting market entry into the public sector.**

The strategy identifies horticulture using new generation greenhouses that are both more sustainable and efficient as a key opportunity. These industrial models to growing fresh produce are seen as key to both increasing overall output from the sector and increasing food security through shielding from climate change. Importantly, they are also proposed as sources of new skilled jobs across the country. Growing 'under glass' also has the potential to extend commercially viable produce seasons around the UK, shoring up domestic supply gaps in the process. This positive intent needs to be backed up by the development of a robust and resourced horticulture strategy. Importantly, however, the adoption of technology in the sector should not come at the expense of the natural environment or socioeconomic opportunity in the regions. This study suggests that **support for growth in the horticulture sector should explicitly include consideration of production and infrastructure gaps at the regional level.** More broadly, **the commitment to maintain a regional approach to food SME support set out by the Government Food Strategy should be tied to procurement opportunities.**

In line with independent National Food Strategy Report published in 2021, the Government Food Strategy highlights the importance and potential of public procurement. Rhetorically it is strong, all illustrated by the vision reproduced in Figure 23. The main thrust for action in this area is the consultation on improved Government Buying Standards for Food and Catering Services, The Government Food Strategy also commits to investing in curriculum materials and 'finding opportunities' for school age children to 'better understand sustainable food and its connection to nature'. Linking through the school dining experience and the sourcing of local sustainable ingredients offers a key method to achieve this, with multiple additional benefits. An evaluation of the impact of public caterers in the Soil Association Food For Life Served Here programme, which focuses on sourcing ethical UK produce, found that for every £1 spent, £4.41 is generated for local economies[xvii] .

Figure 23: UK Government vision for public sector food procurement

> "**Our vision is that public sector food and catering is an exemplar for wider society, delivering positive health, animal welfare, environmental and socio-economic impacts.** Public sector food should be healthier, more sustainable and provided by a diverse range of local suppliers. Locally produced food with reduced distance between farm and fork can provide societal benefits, such as creating personal connection between producers and consumers, supporting local food cultures and local economic growth, and improving traceability of food through shorter supply chains."
>
> **Government Food Strategy, June 2022.**

Note: Emphasis added.

Despite the fact that the analysis indicates that there is a large degree of uniformity within the food sector when viewed at this geographical regional level, it is impossible to be prescriptive about the potential for regional sourcing and therefore goals this agenda can achieve. **The processes or systems put in place to support a shift, such as government buying standards, must be robust but flexible,** particularly in light of the identified information deficits and complex challenges of joining up supply and demand at the regional level.

Procurers are unable to commit to achievable sourcing targets without a better understanding of what is available within the region. This includes defining what their 'region' is, and what constitutes 'regional food'. On the other hand, producers are unlikely to invest in this sector without a clear understanding of the size and nature of the opportunity. This includes not just the margins available to them compared to other routes to market but understanding the surety associated with supplying the public sector and how to balance participation in this sector with other opportunities.

Information deficiency in relation to health and sustainability in the food system has been increasingly recognised at national government levels in recent years. This has cumulated with the announcement of the formation of a Food Data Transparency Partnership in the UK Government Food Strategy, in partnership with the devolved administrations. Addressing information deficiency is essential. **The Food Data Transparency Partnership must have the capacity and powers to bring about positive change in what we know and how we use food system data.** The government has announced it will consult on mandatory public reporting against a set of health, sustainability, and animal welfare metrics. In addition, it has committed to provide consumers with the necessary information required to make informed choices around health and sustainability as well as incentivise industry action in this area. The strategy states that public procurers will be part of this process and expected to report on the food they source (along with levels of waste).

Scottish Government, Welsh Government and the Northern Ireland Executive all retain significant powers related to food, farming and regional economic development. Indeed, the Devolved Administrations have often at the forefront of progressive policy related to maximising the socioeconomic and environmental potential of this sector. All three consulted on new strategic approaches to food in 2021/22 that link local and regional production with consumption in each nation (Scotland's 'Local food for everyone'[12], the 'Wales Community food strategy'[13] and the 'Northern Ireland Food Strategy Framework'[14]). Accompanied by the return of procurement powers from the EU to the UK through Brexit, opportunities clearly exist for public sector food demand to play a key role in supporting local and regional food in each as they move toward publication and implementation.

Some cautions need to be made, however, about pursuing a regional approach to food in the UK. Ultimately regional food supply within a consumer led system will precipitate a certain level of productive inefficiency as primary production decisions will be made on the basis of location to consumers rather than productivity of land. From a national food security perspective, and strong argument can be made that strategic decisions around agricultural land use, and its surrounding infrastructure, are best made at the national level. More broadly, in an increasingly resource stretched world, considerations need to be made as to whether sustainability, including and balancing environmental, economic, and social aspects, is best pursued at a regional, national, or global level.

A second aspect to be considered is the need to safeguard cultural appropriateness within the public sector food system. Consumers, whether pupils, patients or staff should have the right to culturally appropriate food, regardless of whether there is the regional capacity to produce it. More broadly, the food provided must need palatable, not least because food waste is a key inefficiency in the food system that leads not only to hunger and food insecurity, particularly at the global level, but also greater economic inefficiencies which have an impact on the viability of systems based on high volume low margin production ethics.

12 Local food for everyone – a discussion: consultation https://www.gov.scot/publications/local-food-everyone-discussion/
13 Community Food Strategy https://businesswales.gov.wales/foodanddrink/community-food-strategy
14 Northern Ireland Food Strategy Framework Consultation https://www.daera-ni.gov.uk/consultations/northern-ireland-food-strategy-framework

Appendix A: Regional Food Supply in the Public Sector Survey Questions

Regional Food Sourcing in the Public Sector

The survey seeks to understand the extent of regional food sourcing by public institutions across the UK. It is part of a research project that aims to support independent food businesses that wish to supply the public sector.

The project 'Can Regional Food Systems Feed the Public Plate?' is being conducted by Manchester Metropolitan University through funding from the Ashden Trust. Details about this work can be found in the Participant Information Sheet here: https://bit.ly/3tGtDdj. **Please complete this survey as best as you can. Where exact information isn't known, please use approximate estimates. It should take around 5 minutes to complete.**

This survey is anonymous. No identifying organisations or personal information is required. All data provided through this survey will be treated anonymously and according to UK General Data Protection Regulation (GDPR) rules. Further information about this study, including data handling, and ethical review, can be found in the Participant Information Sheet (see link above).

By completing this survey you are giving consent to take part in the study. If you do not complete this survey, your data will be securely deleted and not used in the study. If you have any questions about this research, please contact Dr Adrian Morley at a.morley@mmu.ac.uk

* Required
* This form will record your name, please fill your name.

1. Please Confirm that you agree to take part in this research: *

Yes

2. Does your organisation...

- purchase food through its own contractual arrangements?
- purchase food through frameworks managed by a third party?
- contract out its catering service as a whole?
- manage contracts /frameworks on behalf of public sector purchasers?
- Other

3. **How many** food and drink suppliers do you use?

(i.e. the number of businesses that hold contracts to supply you either directly, through an active shared framework, or through your catering provider)

4. How many of these businesses are **located in your region**?

(for the purposes of this survey, 'region' relates to either one of the 9 English regions or the nations of Scotland, Wales or Northern Ireland (see https://bit.ly/2YSsnrX for a map of the English regions). Businesses located just outside your region may also be included).

5. Approximately, what proportion of your overall food spend is **sourced** from these regional suppliers?

6. Approximately what proportion of your overall food spend **originates** from your region?

(i.e. the location where food was grown, reared, manufactured etc, rather than where you purchase it from. This estimate should therefore exclude produce supplied by regional wholesalers originating from outside the region (e.g. fruit, vegetables, meat). Please provide your best estimate where data is not available.)

7. Please describe which **products / product categories** this mainly includes *(including proportions for each, if possible).*

8. Are there any particular products that have the **potential** to be sourced from your region but you are unable to, due to lack of suitable suppliers? (please indicate why, if possible)

9. Over the past 10 years or so, has the level of regional food sourcing...

- Increased
- Decreased
- Stayed more or less the same
- Unable to say

10. How do you **encourage** regional businesses to supply food? *(tick all that apply)*

- Appropriate contract design (including use of Lots)
- By connecting to existing suppliers (e.g. wholesalers)
- Meet the buyer / information days
- Other

11. Over the past 10 years or so, has **interest** from regional suppliers...

('interest' can range from formal participation in procurement to speculative enquiries or attendance at events.)

- Increased
- Decreased
- Stayed more or less the same
- Unable to say

12. In your opinion, what are the **main barriers** to regional food sourcing from a procurement perspective?

(i.e. what stops you buying more from regional food producers?)

13. What **sectors** does your organisation operate in?

- Education
- Health
- Prisons
- Other

14. What is the approximate **annual food spend** your organisation is responsible for?

(this will enable us to put your responses into context)

15. Please confirm that you **consent** to participating in this study by providing the information above. *

Yes

Appendix B: Regional Analysis of Business Units mapped to Procurement Demand

Northern Ireland

Typical Direct Suppliers	Potential Direct Regional Suppliers	Potential Indirect Regional Suppliers
Wholesale of fruit and vegetables **90**	Growing of vegetables and melons; roots and tubers **165**	Raising of other cattle **1650**
	Growing of pome fruits and stone fruits **15**	Raising of dairy cattle **3555**
	Growing of other tree and bush fruits and nuts **5** *(5)*	Raising of pigs **110**
	Processing and preserving of potatoes **10**	Raising of poultry **445**
	Manufacture of fruit and vegetable juice **0** *(7)*	Mixed farming **6755**
	Other processing and preserving of fruit and vegetables **35**	
Wholesale of meat and meat products **65**	Processing and preserving of meat **35**	
	Processing and preserving of poultry meat **10**	
	Production of meat and poultry meat products **35**	
Wholesale of dairy products, eggs, oils/ fats **55**	Manufacture of ice cream **15**	
	Operation of dairies and cheese making **25**	
Non-specialised wholesale of food; beverages and tobacco **140**	Manufacture of oils and fats **0** *(8)*	Growing of cereals, legumes and oil seeds **180**
	Manufacture of grain mill products **10**	
	Manufacture of bread; manufacture of fresh pastry goods and cakes **160**	
	Manufacture of rusks and biscuits; preserved pastry goods and cakes **10**	
	Manufacture of macaroni; noodles; and similar farinaceous products **0** *(0)*	
	Manufacture of cocoa; chocolate and sugar confectionery **10**	
	Processing of tea and coffee **10**	
	Manufacture of condiments and seasonings **10**	
	Manufacture of prepared meals and dishes **20**	
	Manufacture of homogenised food preparations and dietetic food **5** *(3)*	
	Manufacture of other food products n.e.c. **40**	

Source: NOMIS UK Business Counts, 2021 figures. Data rounded to nearest 5. Figures in brackets from FAME database (Bureau van Dijk) when NOMIS ≤ 5.

South West England

Typical Direct Suppliers	Potential Direct Regional Suppliers	Potential Indirect Regional Suppliers
Wholesale of fruit and vegetables **130**	Growing of vegetables and melons; roots and tubers **1495**	Raising of other cattle **1435**
	Growing of pome fruits and stone fruits **150**	Raising of dairy cattle **1905**
	Growing of other tree and bush fruits and nuts **35**	Raising of pigs **200**
	Processing and preserving of potatoes **5** *(2)*	Raising of poultry **475**
	Manufacture of fruit and vegetable juice **10**	Mixed farming **3300**
	Other processing and preserving of fruit and vegetables **55**	
Wholesale of meat and meat products **125**	Processing and preserving of meat **40**	
	Processing and preserving of poultry meat **5** *(3)*	
	Production of meat and poultry meat products **45**	
Wholesale of dairy products, eggs, oil/fats **100**	Manufacture of ice cream **45**	
	Operation of dairies and cheese making **85**	
Non-specialised wholesale of food; beverages and tobacco **290**	Manufacture of oils and fats **10**	Growing of cereals, legumes and oil seeds **2540**
	Manufacture of grain mill products **20**	
	Manufacture of bread; manufacture of fresh pastry goods and cakes **290**	
	Manufacture of rusks and biscuits; preserved pastry goods and cakes **35**	
	Manufacture of macaroni; noodles; and similar farinaceous products **0** *(3)*	
	Manufacture of cocoa; chocolate and sugar confectionery 55	
	Processing of tea and coffee **20**	
	Manufacture of condiments and seasonings **25**	
	Manufacture of prepared meals and dishes **25**	
	Manufacture of homogenised food preparations and dietetic food **15**	
	Manufacture of other food products n.e.c. **120**	

Source: NOMIS UK Business Counts, 2021 figures. Data rounded to nearest 5. Figures in brackets from FAME database (Bureau van Dijk) when NOMIS ≤ 5.


FRUIT

Greater Manchester

Typical Direct Suppliers	Potential Direct Regional Suppliers	Potential Indirect Regional Suppliers
Wholesale of fruit and vegetables **110**	Growing of vegetables and melons; roots and tubers **55**	Raising of other cattle **35**
	Growing of pome fruits and stone fruits **0** *(0)*	Raising of dairy cattle **45**
	Growing of other tree and bush fruits and nuts **0** *(1)*	Raising of pigs **5** *(3)*
	Processing and preserving of potatoes **0** *(1)*	Raising of poultry **15**
	Manufacture of fruit and vegetable juice **5** *(13)*	Mixed farming **45**
	Other processing and preserving of fruit and vegetables **20**	
Wholesale of meat and meat products **130**	Processing and preserving of meat **15**	
	Processing and preserving of poultry meat **5** *(11)*	
	Production of meat and poultry meat products **30**	
Wholesale of dairy products; eggs, oil/fats **460**	Manufacture of ice cream **15**	
	Operation of dairies and cheese making **15**	
Non-specialised wholesale of food; beverages and tobacco **185**	Manufacture of oils and fats **5** *(6)*	Growing of cereals, legumes and oil seeds **65**
	Manufacture of grain mill products **10**	
	Manufacture of bread; manufacture of fresh pastry goods and cakes **140**	
	Manufacture of rusks and biscuits; preserved pastry goods and cakes **20**	
	Manufacture of macaroni; noodles; and similar farinaceous products **5** *(4)*	
	Manufacture of cocoa; chocolate and sugar confectionery **20**	
	Processing of tea and coffee **5** *(30)*	
	Manufacture of condiments and seasonings **10**	
	Manufacture of prepared meals and dishes **20**	
	Manufacture of homogenised food preparations and dietetic food **10**	
	Manufacture of other food products n.e.c. **45**	

Source: NOMIS UK Business Counts, 2021 figures. Data rounded to nearest 5. Figures in brackets from FAME database (Bureau van Dijk) when NOMIS ≤ 5.

Endnotes

i DEFRA Food Statistics Pocket Book 2022, HMSO: London (https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket).

ii Lang, T. (2020) Feeding Britain: Our food problems and how to fix them. London: Pelican.

iii DEFRA UK Food Security Report 2021, HMSO: London (https://www.gov.uk/government/statistics/united-kingdom-food-security-report-2021)

iv DEFRA Food Statistics Pocket Book 2022, HMSO: London (https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket)

v Office for National Statistics, Regional Gross Value Added by Industry, https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry

vi Ibid.

vii Memorandum submitted by the Food and Drink Federation (SFS 29), Securing food supplies up to 2050: the challenges faced by the UK - Environment, Food and Rural Affairs Committee, HMSO:London (https://publications.parliament.uk/pa/cm200809/cmselect/cmenvfru/213/9022507.htm)

viii Ibid.

ix DEFRA Agriculture in the UK 2020, HMSO: London (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056618/AUK2020_22feb22.pdf)

x Ibid

xi Ibid.

xii Ibid.

xiii DEFRA Food Statistics Pocket Book 2022, HMSO: London (https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket).

xiv See Principles of Dynamic Food Procurement, Dynamic Food Procurement Advisory Board (https://www.dynamicfood.org/_files/ugd/88ba3c_1683b14981d64eb8999522e7a7c85b89.pdf)

xv New Covent Garden Market British Seasonal Chart (https://i.pinimg.com/originals/43/b6/b9/43b6b9d0834ac4ab18829b76087ca68c.jpg)

xvi Soil Association, Access to land and market gardens in the UK, 2017. Soil Association: Bristol (https://www.accesstoland.eu/IMG/pdf/access_to_land_and_market_gardens_in_the_uk-2.pdf)

xvii Soil Association Our Impact, Food for Life Served Here 2020-2021, Soil Association: Bristol (https://www.foodforlife.org.uk/~/media/files/evaluation%20reports/fflsh-impact-report-2021.pdf).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