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In the wake of the COVID-19 pandemic, Cornwall's food and drink sector has become increasingly aware of the fragility of the current supply chains, which has been exacerbated by the reliance of the local economy on the food service, leisure and tourism sector. In addition to the wide-ranging and ongoing challenges brought about by the pandemic, Cornwall's food and drink sector is faced with the uncertainty of Brexit trade agreements. By shortening supply chains to improve responsiveness and robustness, the Cornwall and Isles of Scilly Local Enterprise Partnership (CIoS LEP) intends to support the development of a more regional food supply chain infrastructure, nurturing the growth of a diverse base of small and medium food producers and strengthening the local economy. In response to the significant changing demands and challenges of supply within Cornwall as a result of the COVID-19 pandemic, Agritech Cornwall funded this 12 week study to inform the views of the CIoS LEP in better understanding how they can respond to and support the needs of the Cornish food and drink sector. This work took the form of four surveys; one within the education sector and one within the care sector to understand the potential for increased usage of local produce within public procurement catering, one within the farm shop sector to understand the significant challenges and opportunities that stores have been faced with as a result of the pandemic, and one within the fishing sector to understand the impact of disrupted supply chains on fishing activity and routes to market.

Education sector catering survey summary:
In total 37 education providing establishments responded to the survey which was distributed to head teachers of 282 establishments, resulting in a participation rate of 12.6% for primary schools, 13.6% for secondary schools and 20.0% for colleges. Extrapolating from the results of this survey, we estimate that the annual spend on school dinners in CIoS is in the region of £1,060,000. In addition to the estimated annual spend on school dinners there is the further provision of school breakfasts and snacks which was found to be provided in 68% of schools, generally to a small (<30) number of pupils. The survey responses indicate that utilising local produce is not currently a priority for many schools when tendering catering contracts or selecting suppliers, with the perceived cost of local produce reported by the majority of schools as the primary obstacle to switching suppliers. In order to facilitate increased procurement of local produce within schools the CIoS LEP could provide easily accessible information on local procurement, including guidance on how to effectively draft specifications for catering contracts. Promoting the widespread usage of a 'certification' scheme via which schools can achieve accreditation for demonstrating their usage of locally produced ingredients in addition to developing resources to incorporate food production and nutrition into the school curriculum may also raise awareness of the issues surrounding the sustainability of food production within the education sector. Finally, this study highlights the opportunity for the CIoS LEP to work alongside the organisation Sustenation to promote the increased usage of local produce with respect to pre-prepared school meals.

Key survey findings:

1. The number of respondents who did not know what proportion of their food was locally sourced was greater within academies (57%) relative to maintained schools (31%). This may be due the fact that some academies are part of multi academy trusts and therefore decisions regarding catering contracts are often made centrally by a board of trustees, with less involvement of individual schools in catering decision making. Of the top five academy schools incorporating the greatest proportion of local produce, all respondents were from primary schools which prepare and cook school dinners on-site with ingredients sourced via a contract or agreement with a supplier. The average budget for these five schools per school dinner (£1.14) is substantially lower than the average budget across all primary academy respondents (£1.73), suggesting that despite the majority of respondents perceiving cost to be the main barrier to using more local food it is indeed possible to incorporate a greater proportion of local produce into school catering without this requiring an increased budget.

2. 86% of respondents told us that their school ties-in food with the curriculum in some way, with the most popular method of achieving this being through the provision of themed lunches or themed days. However, other activities such as cooking, growing produce and teaching about food production and nutrition were less commonly implemented and might be more effective at promoting sustainable and healthy relationships with food.

3. 68% of respondents told us that their school reuses or recycles the packaging associated with their catering operations where possible. However, only 46% of respondents told us that their school has a policy to reduce

food waste, via methods including composting, waste disposal sinks, foodbank donation and only cooking the required amount. For schools which purchase pre-prepared meals (19% of respondents) surprisingly only 29% of these return the packaging to the supplier for reuse, with a further 14% reporting that they recycle/ reuse the packaging where possible. Further, of the schools which purchase pre-prepared meals 86% of respondents were unsure what proportion of the ingredients were sourced from Devon or Cornwall, relative to 40% of respondents who prepare and cook their meals on-site.

Care sector catering survey summary:

In total 27 care homes responded to the survey which was distributed to the membership body of the organisations Cornwall Adult Health and Social Care and Cornwall Partners in Care, resulting in a response rate of 11.5%. Extrapolating from the results of this survey we estimate that the total annual spend on food provision for the 5,000 care home residents in CIoS may be in the region of £11,690,000. The survey results suggest that there is a potential lack planning within the care sector in relation to food budgeting and procurement, highlighting the opportunity for increased uptake of local produce and greater awareness of sustainable purchasing. There was a common perception among respondents that incorporating a greater proportion of local produce within their catering would not be cost effective and that it would be difficult to find a supplier(s) that could cater to their needs. Co-organising an event may be an effective way for the CIoS LEP to gather representatives from across the food and care sector to spark discussion and encourage collaboration with respect to increasing the usage of local produce within care sector catering. The domiciliary care sector was not targeted by our survey but represents an area of significant future growth which could provide an increase in the market for pre-prepared meals within CIoS. This increased demand could potentially be met by the organisation Sustenation who already use a large proportion of local food in their meals.

Key survey findings:

1. The majority (59%) of care homes which responded cater for between 11 and 30 residents, with an average value of 18 residents per home. All respondents stated that they prepare and cook all meals in-house, which was unexpected given that conditions such as dementia often require specialised meals in individual portion sizes which are commonly bought pre-prepared.
2. The majority (56%) of respondents source their ingredients from supermarkets or shops rather than using suppliers, although the homes using supermarkets or shops generally catered for fewer residents. Of the homes who use a supplier, only 17% of these hold a contract with their supplier.
3. 48% of respondents told us that they do not have specific budgets in place for food provision. Of the care homes that set budgets, those that use a supermarket or shop had a greater budget (average = £9.57, range = £5.00-£16.00) relative to those who use a supplier (average budget = £4.61, range = £4.30-£5.00).
4. A greater proportion of respondents who use a supermarket or shop to purchase food were unsure what proportion of their food is locally sourced (40% of respondents), relative to those who use suppliers (33%). The average proportion of local food used by respondents who use a supermarket or shop to purchase food is 55%, relative to an average proportion of 59% among respondents that use suppliers (of those who provided a value).
5. A greater proportion of care homes that use a supermarket or shop to purchase food reuse or recycle their food packaging (83%) and have a policy in place to reduce food waste (60%), relative to those that use a supplier (73% and 42% respectively).

Farm shop survey summary:

Of the 56 farms shops in CIoS, 19 businesses participated in our telephone survey, resulting in a response rate of 34%. This results of this survey validate the important role that farm shops in CIoS have played in the recent COVID-19 pandemic; easing pressure on the larger retailers, offering a calm and safe shopping environment, catering to customer requests and developing delivery and collection systems. These outlets provided a reliable route to market for many farmers and independent producers who saw many of their usual supply chains disrupted. Amid the new social distancing regulations customers have reportedly reverted to historic shopping habits of making fewer, larger shops per week. Farm shops have begun responding to this trend by expanding their product range, with over 89% of survey participants reporting stocking additional items such as toilet paper, cleaning products, toiletries, tinned goods, additional fruit and vegetables, and dried goods such as pasta and flour, largely due to requests from customers. Going forward, it may be that farm shops are required to continue to stock these 'essential' items alongside the fresh produce, high end and artisanal products which are traditionally offered. In order to support the development of the county's farm shops, we recommend that the CIoS LEP hosts a webinar or workshop providing tools which farm shops can employ to maximise customer retention. In addition to farm shops, the event could be made available to local producers to facilitate new partnerships and short supply chains and also to very small scale farm shops (garden-based growers who sell from the home/ roadside) who may have been excluded from the scope of this survey. The event could be run in collaboration with partners such as Growth Hub, the National Farmers Union, Tevi and the University of Exeter.

Key survey findings:

1. 74% of respondents reported an increase in sales during lockdown with many respondents stating that this increase was most apparent during the first six weeks.
2. Over half of respondents reported that they were not required to extend the range (in terms of distance) from which they sourced their produce in response to the COVID-19 pandemic. However, 37% of respondents reported that they used wholesalers to source produce that they wouldn't have usually stocked prior to the pandemic (for example rice, pasta and tinned goods), which resulted in a significant expansion in range, both within Europe and globally. With the exception of two shops, all respondents reported increasing their product range. In 79% of cases, the expansion in range was in response to customer requests.
3. Supply and demand was reported to be the cause of the majority of product shortages (including baking ingredients, pasta and tinned tomatoes), although bottlenecks in supply were said to abate within several weeks.
4. The majority (58%) of respondents do not currently sell online, with approximately half (54%) of these stating that they do not have plans to sell online in the future. Of the farm shops that sell online, 71% of these already sold online prior to the pandemic.
5. 37% of respondents were considering expanding their business in the future, with 5% having expanded during the pandemic. However, 42% of respondents were concerned about retaining their newly expanded customer base in the long-term, with a further 31% concerned about the financial viability of their business if tourist levels were supressed over a sustained period of time.
6. 90% of respondents told us that their customers do not comment on their prices. Further, over two thirds of respondents reported that they do not compare their prices to those of a supermarket, based on the premise that their products are not comparable or are of higher quality than those available in the supermarket.
7. 58% of respondents had set up a delivery or 'click/ phone and collect' service in response to the COVID-19 pandemic, frequently in response to the needs of elderly and vulnerable customers and NHS and key workers within their community. 27% of these businesses planned to continue with this service, with a further 37% hoping to continue with the service if demand was still apparent.

Fishing sector survey summary:

Of the 21 fishers invited to participate in the survey we received a response from eight of them, resulting in a participation rate of 38%. Despite the small sample size, the high participation rate and detailed responses obtained in this survey suggest that Cornwall's inshore fishing community is keen to engage with the CIoS LEP to build upon the new routes to market which have developed as a result of the COVID-19 pandemic, working towards an economy in which a greater proportion of their catch is sold locally to the public. In addition to fish and shellfish being a valuable source of nutrition, increasing local consumption of Cornish-landed fish is an effective way to minimise food miles and shorten supply chains within the local food sector, helping Cornwall move towards a carbon neutral economy. Establishing reliable avenues through which fishers can sell their catch locally (while requiring minimal additional administration input from fishers) will help to provide financial resilience to the inshore fishing community, which is particularly important given the current uncertainty surrounding exports as a result of Brexit trade agreements. The creation of farmer-style markets for fish throughout Cornwall would provide the opportunity for fishers to sell their catch directly to local communities and tourists, while enabling the fishers to increase public awareness relating to the sustainability of their catch. The CIoS LEP may be able to assist in gauging regional support for local fish markets and if substantial support is evident they may be able to assist with the application for Market Rights Licences.

Key survey findings:

1. All of the respondents work on vessels that are under 15m in length, with seven respondents reporting that they are the vessel owner.
2. The most widely targeted species were crustaceans (lobster, brown crab, spider crab; 40% of responses), followed by demersal fish (including flat fish and ling; 27% of responses), pelagic fish (pollack, mackerel, cod and bass; 18% of responses) and bivalves (mussels, oysters and scallops; 18% of responses).
3. Prior to the pandemic, the most popular routes to market were local fish merchants and wholesalers (accounting for 40% of responses each), with only one respondent (10% of responses) using a local market in Newlyn to sell his catch.
4. Seven of the eight respondents (86%) told us that their fishing activity had been reduced as a result of the pandemic due to the lack of demand and the closure of fish merchants, with only one respondent telling us that activity had remained the same. Reduced activity was achieved by reducing the frequency of fishing trips (50% of responses) and duration of fishing trips (37% of responses). One fisher told us that they changed the location of their fishing effort, moving to a site that was closer to port to reduce fuel usage (13% of responses).
5. 86% of respondents had adopted new routes to market as a result of the pandemic, including selling their catch locally at markets and directly to customers using online platforms. Of the respondents who had adopted new routes to market, the majority of fishers reported disadvantages associated with these sales channels, most commonly increased work hours as a result of administration tasks associated with matching sellers with their catch, in addition to the fact that they were required to deliver the catch immediately after finishing working at sea. Only two respondents told us that they planned to maintain these new methods of sale following the pandemic, with five not providing an answer.
6. Half of respondents had faced issues as a result of the pandemic in addition to the disruption of their traditional routes to market, with financial concerns being the most commonly reported problem (37% of responses), followed by difficulty obtaining boat parts (25% of responses) and to a lesser extent isolation and a lack of time to purchase food and collect prescriptions around their fishing schedule.
7. Three quarters of respondents told us that they foresaw challenges in the period following the pandemic, with 62% fearful of the length of time that it might take for markets and prices to return to pre-pandemic levels.
8. 75% of respondents told us that they would like to see more of their catch available locally, and 100% of respondents told us that they would like to see greater education regarding the local fishing industry and an increase in children eating seafood.

Introduction:

COVID-19 has revealed fragilities in the United Kingdom's food supply system, exposing key vulnerabilities as panic buying, a lack of seasonal migrant workers and the disruption of long-distance supply chains have led to product shortages across the nation. Following the disruption of regular routes to market, food producers have experienced issues in diverting supply to other markets, resulting in wastage and loss of trade. An impending recession and widespread changes to daily routines have altered consumer habits; factors such as price and availability are being prioritised over environment and welfare when selecting food, while an increase in home cooking and a desire to avoid entering supermarkets has led to a higher demand for online food deliveries, food box schemes and farm shops (Stannard, 2020).

The impact of COVID-19 has been particularly devastating within four broad sectors; pubs and restaurants, arts and leisure, accommodation (including campsites and caravan parks) and non-food retail. However, the concentration of employees from these sectors is distinctly higher in coastal regions, meaning that coastal towns are being disproportionately affected by the shutdown. Five of the top 20 towns with the highest proportion of employees within one of the four 'at-risk' sectors are based in Cornwall (Newquay (56.2% of employees), St Ives (48.0%), Penzance (42.2%), Falmouth (40.6%) and St Blazey (39.3%)) (Warren *et al*. 2020). The fact that Cornwall's economy is highly skewed to supplying the food service, leisure and tourism sector is reflected by local spend figures in the peak of the pandemic, which show that sales in Cornwall experienced the steepest decline relative to other counties in the South West, when compared to the same week in April last year (Appendix 1: Figure 1) (Tortoise Media, 2020).

In the wake of the COVID-19 pandemic, Cornwall's food and drink sector has become increasingly aware of the fragility of the current supply chains, which has been exacerbated by the reliance of the local economy on the food service, leisure and tourism sector. However, the resilience and initiative shown by local businesses and communities suggests that the crisis may represent an opportunity to reshape supply chains and build resilience in our food system in a way that works for people, place and the environment. This sentiment was reflected in a recent survey of professionals working in food, farming and the countryside (of which 21% of participants were based in the Southwest), which revealed a widespread desire for more collaboration and diversity, with 70% of participants expressing a strong desire for greater investment in short/ local food supply chains and a further 23% agreeing that this should be a priority (MacMillan, 2020).

In response to the significant changing demands and challenges of supply within Cornwall as a result of the COVID-19 pandemic, Agritech Cornwall funded this 12 week study to inform the views of the Cornwall and Isles of Scilly Local Enterprise Partnership (CIoS LEP) in better understanding how they can respond to and support the needs of the Cornish food and drink sector. In addition to the wide-ranging challenges brought about by the pandemic, Cornwall's food and drink sector is faced with the uncertainty of Brexit trade agreements and will need clarity on market risks and opportunities for growth. The CIoS LEP will therefore take on new importance in guiding the sector towards a more resilient and adaptable future, brokering with government to help develop and deliver policies (National Farmers Union, 2020a). Establishing regional and local food and drink infrastructure that is able to serve both catering and retail markets would significantly mitigate unforeseen future channel shifts in the sector, while also reducing reliance on mass distributors and retailers whose long, rigid 'just-in-time' food supply chains are frequently overly-reliant on imports and vulnerable to systemic shocks (Dynamic Food, 2020; Simmonds, 2020). By shortening supply chains to improve responsiveness and robustness, the CIoS LEP intends to support the development of a more regional food supply chain infrastructure, nurturing the growth of a diverse base of SME food producers and strengthening the local economy.

Project aims:

In response to the significant changing demands and challenges of supply within Cornwall as a result of the COVID-19 pandemic, Agritech Cornwall funded this 12 week study to inform the views of the CIoS LEP in supporting the strategic development of the agri-food sector in Cornwall and the Isles of Scilly. This work took the form of four surveys; one within the education sector and one within the care sector to understand the potential for increased usage of local produce within catering, one within the farm shop sector to understand the significant challenges and opportunities that stores have been faced with as a result of the pandemic, and one within the fishing sector to understand the impact of disrupted supply chains on fishing activity and routes to market.

1.0 Education sector catering survey:

1.1 Introduction:

In the wake of the COVID-19 pandemic, Cornwall's food and drink sector has become increasingly aware of the fragility of the current supply chains, which has been exacerbated by the reliance of the local economy on the food service, leisure and tourism sector. Increasing supply of local produce into Cornwall's public sector would reduce this reliance, while delivering an increase in the regional demand for local food, minimising food miles and contributing towards meeting the Carbon Neutral Cornwall challenge set by Cornwall Council. At a value of 10-20% of GDP, public sector procurement (also known as government procurement) accounts for a substantial part of the global economy. Within this, the education sector forms a significant part of public sector procurement spend, with schools and higher educational establishments accounting for 58% of total spend (Global City Futures, 2020). Therefore, increasing the usage of local produce within educational establishments in Cornwall and the Isles of Scilly (CIoS) could facilitate the development of a more regional food supply chain infrastructure and has the potential to increase the viability of the local food and drink sector and improve diets through the provision of healthier food alternatives. In order to investigate the potential for increased usage of local produce within schools and colleges in CIoS we conducted surveys to find out about their current catering arrangements. This work will be used by the CIoS Local Enterprise Partnership to support the development of regional supply chains, nurturing the growth of a diverse base of SME food producers and strengthening the local economy.

1.2 Methodology:

Within CIoS there are 246 providers of primary education, 44 providers of secondary education and 20 providers of college level education (hereafter, simply refered to collectively as schools). See Figure 1.1 for the composition of school type (academy, independent, maintained school, special school) within the primary and secondary providers. We contacted the headteachers of all of these establishments via email on 24/06/2020, to invite them to participate in the online survey. The survey was open for a duration of two weeks following the intial contact email (see Appendix 1: Figure 2 for the list of survey questions).

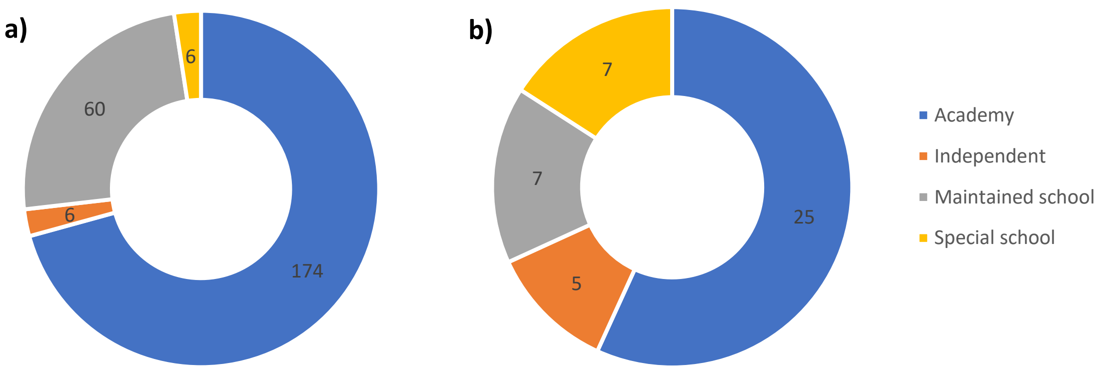

Figure 1.1

a) The number of primary schools in CIoS according to school type (total = 246).
b) The number of secondary schools in CIoS according to school type (total = 44).

1.3 Results

In total, 37 education providing establishments responded to the survey, resulting in a participation rate of 12.6% for primary schools, 13.6% for secondary schools and 20.0% for colleges (Table 1.1). The full survey results are available to view on a slideshow which can be accessed by clicking this link, as this interactive format enables the viewer to hover the mouse over each response to view the detailed answer, therefore providing greater depth of information than can be achieved by graphical representation alone. Further, the interactive format provides additional insight as it enables the responses to be sorted according to factors such as school type, age group and specific catering arrangements. However, for the purposes of this report key results will be represented graphically.

Table 1.1. The surevy response rate, according to school type and age group.

	Primary schools			Secondary schools			Colleges		
School type	Number of schools	Number of participants	Response rate per school type (%)	Number of schools	Number of participants	Response rate per school type (%)	Number of colleges	Number of participants	Response rate per school type (%)
Academy	174	17	9.8	25	4	16	0	0	NA
Independent	6	1	16.7	5	0	0	0	0	NA
Maintained	60	12	20.0	7	1	14	0	0	NA
Special	6	1	16.7	7	1	14	0	0	NA
NA	NA	NA	NA	NA	NA	NA	20	4	20
Total	246	31	-	44	6	-	20	4	-

Respondents were asked whether they tie-in food with the curriculum in any way. Of the respondents, 84% of primary schools, 83% of secondary schools and 75% of colleges told us that do tie-in food with the curriculum in some way. Of the schools that do tie in food with the curriculum, organising themed lunches was the most popular method of achieving this (37%), with many of these schools also growing vegetables (on site, or in one case at a National Trust garden) and incorporating this produce into the themed lunches (Figure 1.2). 18% of respondents linked food in with the curriculum, covering topics such as food production methods, healthy eating, or tying in food with history or geography classes. 16% of respondents incorporate cooking into the curriculum, with these activities being facilitated by external catering companies in one third of the establishments. Only two of the respondents organised external visits, which comprised of a food and farming event at Wadebridge Showground and visits to local food producers including poultry farms.

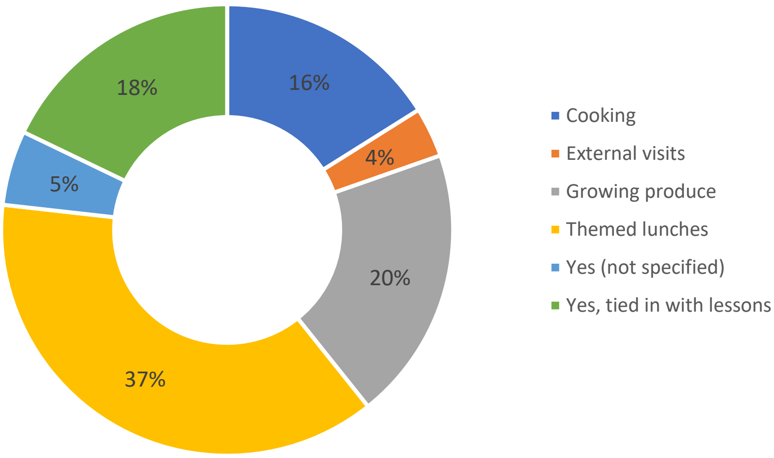

Figure 1.2. The methods by which schools tie-in food with the curriculum.

The respondents were asked how many pupils are on their school register. Generally speaking, the number of pupils increases with age group (i.e. primary schools have smaller numbers of pupils (average = 202, n=30) and colleges have the largest numbers of pupils (average = 1089, n=1); Figure 1.3a). The average number of pupils is greater in academies (323, n=21) than in maintained schools (199, n=13), however the sample size (n=1) for independent schools and special schools was too small to draw reliable comparisons (Figure 1.3b). Respondents were asked what proportion of their pupils have school dinners. On average, 59% of primary school students have school dinners and 44% of secondary-college students have school dinners (Figure 1.4 a, b). These figures exclude 12 of the survey respondents, who did not know what proportion of their pupils have school dinners (n=6 primary schools, n=1 primary-secondary school, n=2 secondary schools, n=2 secondary-college, n=1 college).

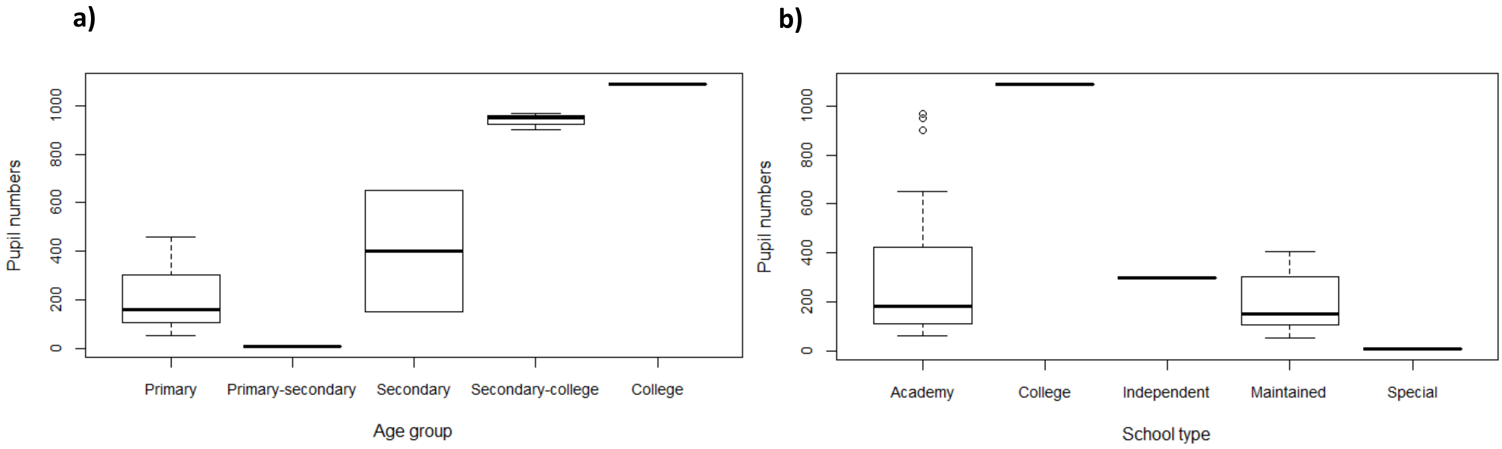

Figure 1.3

a) The number of pupils according to age group.
b) The number of pupils according to school type.

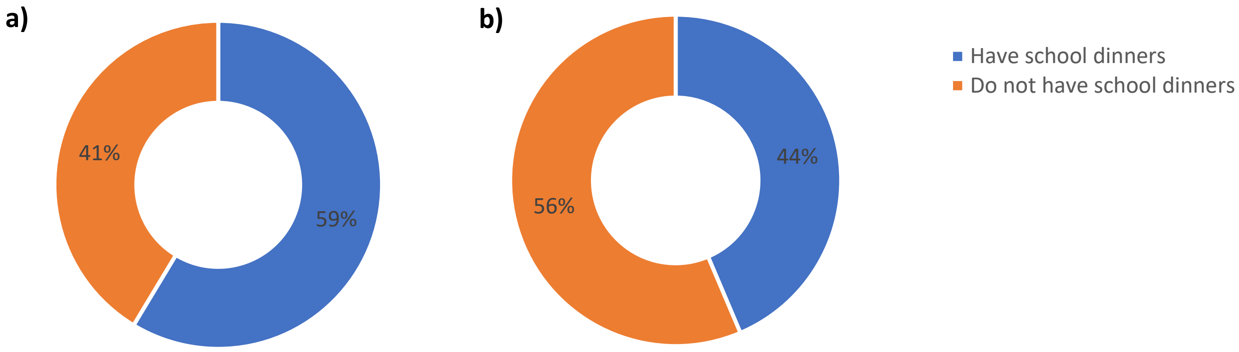

Figure 1.4

a) The proportion of pupils who have school dinners in primary schools.
b) The proportion of pupils who have school dinners in secondary schools.

The respondents were asked what their budget is per school dinner per person. The average budget was £1.91 across all schools, with an average budget of £1.84 for primary schools (n=25), £3.50 for primary - secondary schools (n=1), £2.25 for secondary schools (n=2) and £1.78 for secondary-college (n=3) (Figure 1.5a). The average budget according to school type was £2.07 for maintained schools (n=12), £1.77 for academies (n=17), £0.85 for independent schools (n=1) and £3.50 for special schools (n=1) (Figure 1.5b). These figures exclude six of the survey respondents, as they did not know the value of their school meals budget (n=5 primary schools, n=1 college).

The respondents were asked whether they prepare and cook their school dinners in-house or whether they purchase pre-prepared dinners. Only 19% (n=7) of respondents purchased pre-prepared school dinners, all of which were primary schools, with the remaining 81% (n=30) of respondents preparing and cooking their school dinners in-house. The reasoning provided by respondents for their school purchasing pre-made dinners was a lack of on-site catering facilities and the cost of preparing and cooking school dinners in-house. Of the schools that purchase pre-prepared school dinners, we asked where they source these from; 43% of respondents use Caterlink, 43% use Chartwells and 14% use Sustenation (Cornwall Foods) (Figure 1.6). Reasons provided for selecting Sustenation were that their food was healthy, easy to heat, reasonably priced and had clear labelling. Reasons were not provided for the selection of Caterlink or Chartwells.

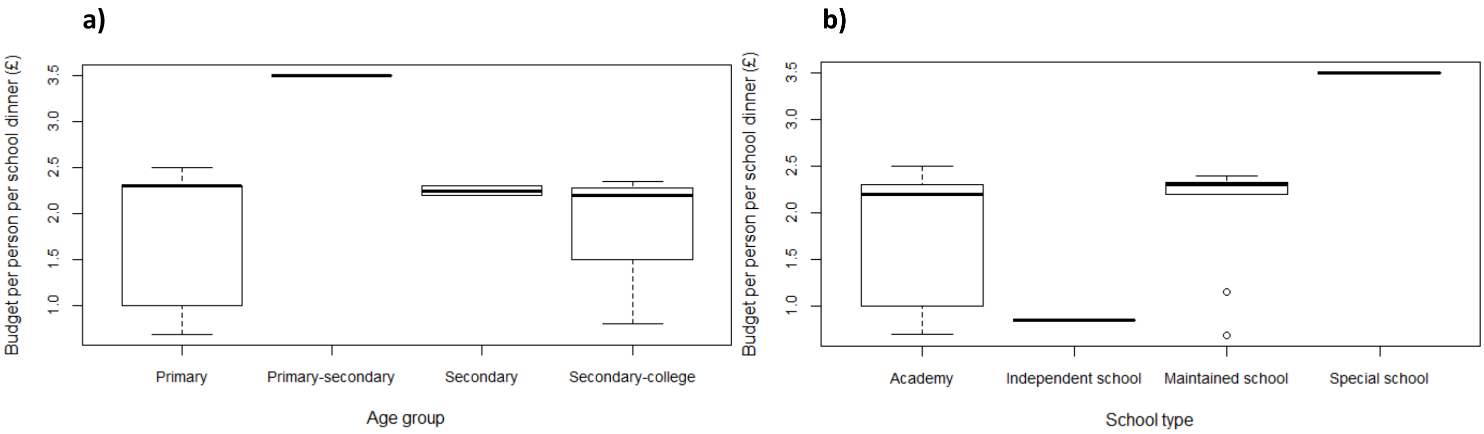

Figure 1.5

a) School budget per person per school dinner, according to age group.
b) School budget per person per school dinner, according to school type.

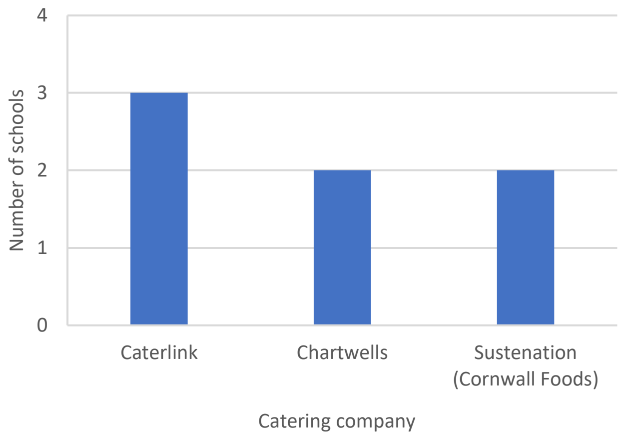

Figure 1.6. The catering companies used to supply pre-made school dinners.

Of the schools that that prepare and cook their school dinners on-site, the respondents (n=30) were asked where they source their ingredients from. The majority of respondents (53%) told us that their ingredients are sourced by catering companies, which hold their own contracts with suppliers (Figure 1.7). 37% of respondents told us that they use local suppliers including Westcountry, M.J. Baker, The Brian Etherington Meat Company, Savona Foodservice South West, Tamar View Fruiterers, Gunnislake butchers, Lillie Brothers, Roach Fine Foods, Stevenson Newlyn and Scorse Foods. Of the schools which use local suppliers, 45% of these also use wholesalers including FreshPoint, Brakes Foodservice, RD Johns and Booker to source their ingredients. Only 7% of respondents told us that they use supermarkets including Tesco, Aldi and Lidl to source their ingredients. One respondent did not know the source of their ingredients, other than that they were sourced by a catering company (not specified).

All respondents were asked whether their school has a contract for their food supply. (Figure 1.8). The majority (65%) of respondents told us that they do have a contract for their food supply, including all of the schools which use a catering company to source and cook their ingredients on-site and all but one of the schools which purchase pre-made school dinners (one respondent was unsure whether a contact was held for their pre-made meals from Chartwells). 24% of respondents told us that they do not have a contract for their food supply; these respondents used local suppliers, wholesalers and supermarkets.

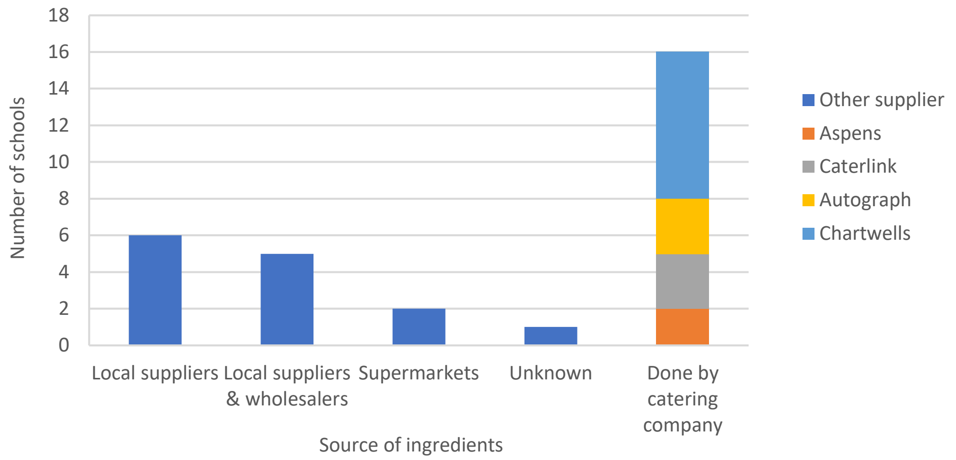

Figure 1.7. The source of ingredients for schools which prepare and cook their school dinners on-site (coloured according to food supplier).

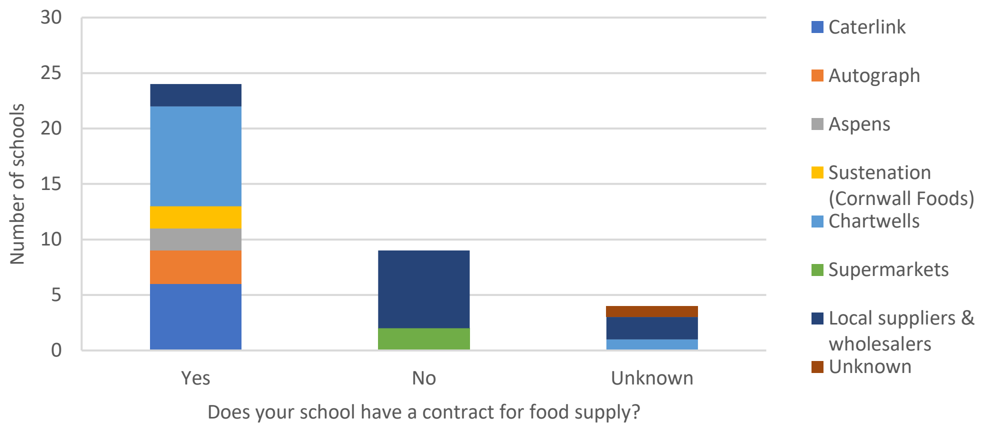

Figure 1.8. Whether schools have a contract for their food supply (coloured according to food supplier).

Of the schools which hold a contract for their food supply, we asked how regularly they tender this. Contract lengths varied from 2 years to 5 years, with one respondent holding a rolling contract with their local suppliers and wholesalers (Brakes Foodservice, RD Johns and Westcountry). Another respondent who uses local suppliers and wholesalers told us that their contract length is two years, tendered through Pelican Procurement Services. 14 of the respondents did not answer this part of the question, therefore the length of their contracts is unknown.

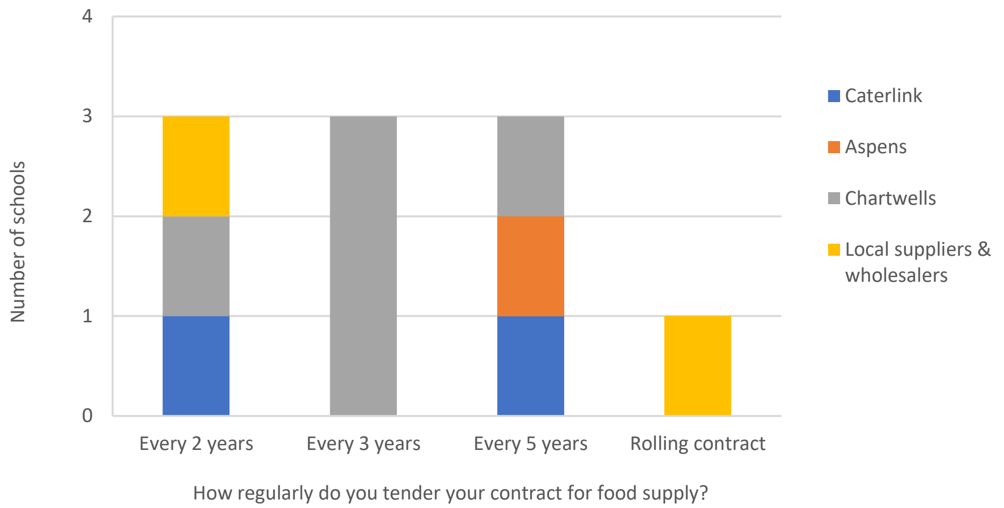

Figure 1.9. Whether schools have a contract for their food supply (coloured according to food supplier).

We asked the respondents how frequently their school requires food to be delivered. The most common delivery frequencies were daily (24%) and twice per week (24%), with the type of food supplier not having a significant effect on delivery frequency (Figure 1.10). Storage capacity was most commonly provided as the reason determining delivery frequency, followed by freshness and minimising wastage. Five of the respondents told us that their delivery frequency depends on their suppliers, with fruit and vegetables being delivered more frequently (usually daily), dairy and groceries being delivered less often (usually twice weekly) and meat being delivered less frequently (once or twice per week). One of the schools who visited the supermarket daily told us that this was because they are a specialist school provision for pupils with social, emotional and mental health needs.

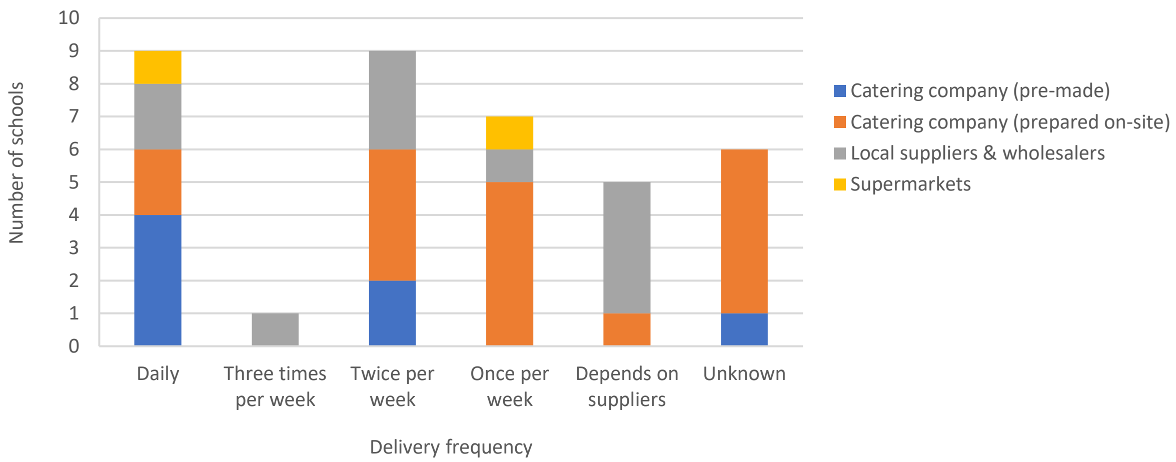

Figure 1.10. Food delivery frequency (coloured according to type of food supplier).

Of the seven schools which purchase pre-prepared meals, we asked in what form their meals arrive; frozen, refrigerated or heated. Three of the respondents reported that their meals arrive frozen and are heated on-site, three reported that their meals arrive pre-heated (two of these arrive hot via the catering company, and one is heated at another school) and one respondent reported that their meals arrive refrigerated. Of these, four respondents told us that their meals arrive in bulk serving trays as components of a meal, two told us that the format depends on the menu and one told us that they receive their meals pre-divided into trays of 4 or 8 portions.

All respondents were asked whether they reuse or recycle the packaging associated with their catering operations. 68% of respondents told us that they recycle or reuse food packaging where possible, with a further 11% reporting that they reuse packaging for catering or unrelated purposes around the school (Figure 1.11). Of the schools which receive pre-prepared meals (n=7), 29% told us that their meals arrive heated in metal serving trays which are returned to the caterers for reuse. One primary school who contracts Autograph to prepare and serve their meals told us that they are classified as a 'plastic free school' and have largely achieved this by requesting as little single-use plastic as possible, and recycling all other packaging where permitted. Following this, respondents were asked whether they have a policy to reduce food waste. 46% of respondents told us they do have a policy to reduce food waste, via methods including composting, waste disposal sinks, foodbank donation and only cooking the required amount (Figure 1.12). A further 11% told us that they produce little food waste but don't have a specific policy in place, while 27% had no food waste policy and 14% were unsure whether they have a policy.

Respondents were asked if they knew what proportion of their food was locally sourced (i.e. from Devon or Cornwall). 8% of respondents reported sourcing up to one third of their food locally, 14% of respondents reported sourcing up to two thirds (33-65%) of their food locally and 22% of respondents reported sourcing up to 100% (65-100%) of their food locally or buying as 'locally as possible' (Figure 1.13). 8% of respondents told us that their caterers try to source their food locally; these schools held contracts with Aspens, Sustenation (Cornwall Foods) and Caterlink. 49% of schools did not know what proportion of their food was locally sourced; this figure was substantially higher within academies (57%) relative to maintained schools (31%).

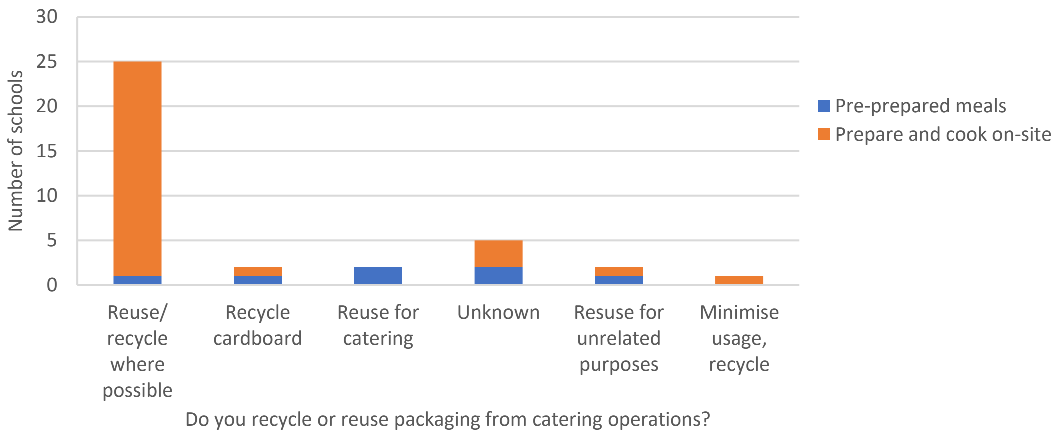

Figure 1.11. Whether schools reuse or recycle packaging associated with catering operations (coloured according to meal type).

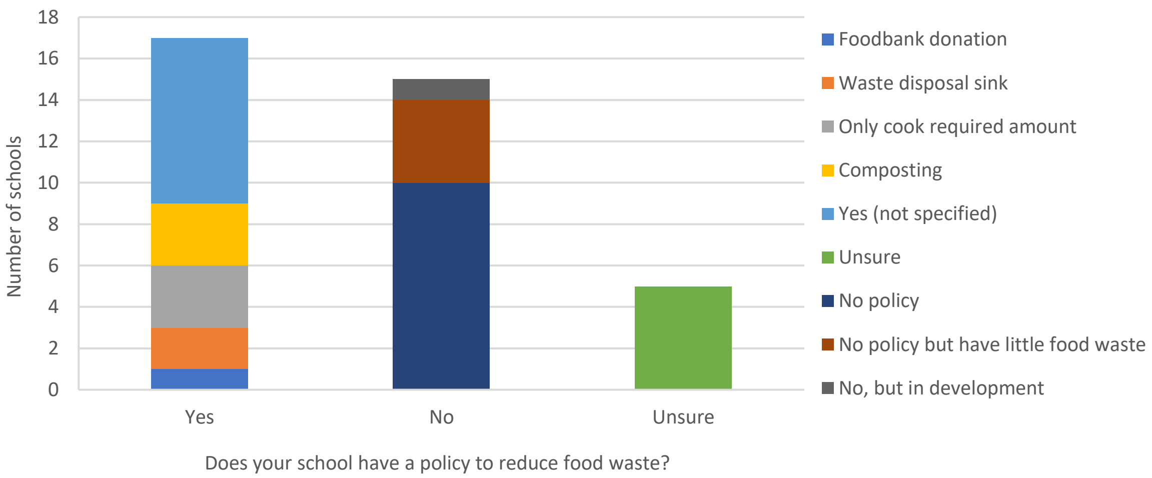

Figure 1.12. Whether schools have a policy to reduce food waste (coloured according to policy type).

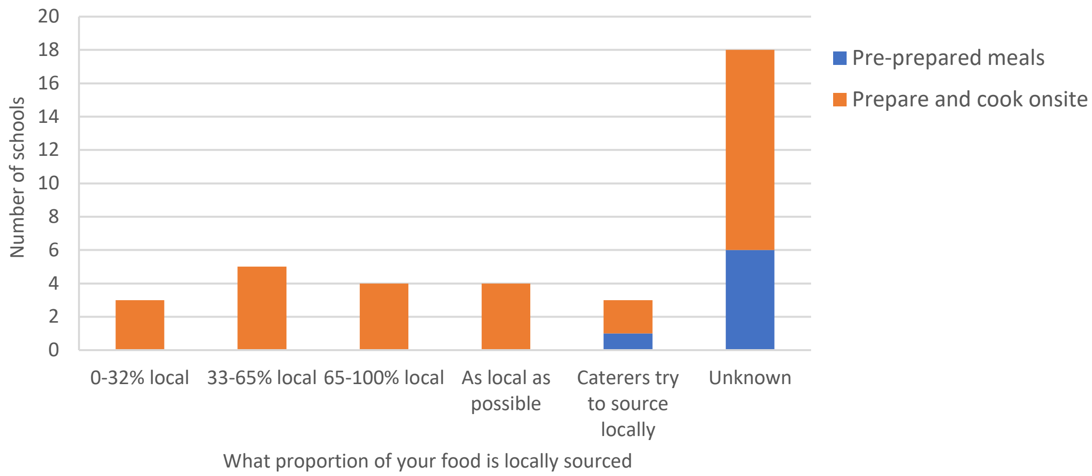

Figure 1.13. The proportion of locally sourced food within school catering (coloured according to meal type).

Respondents were asked whether they provide any food other than a school dinner. 68% of respondents provide additional food, with the most popular provision being breakfast (n=24/25) and some schools additionally providing snacks (Figure 1.14). When asked how many pupils the schools provide this additional food to, 78% of respondents told us that they provide this service to less than 30 pupils per day (excluding the seven respondents who told us that the number of pupils varies per day but did not include a range of values) (Figure 1.15).

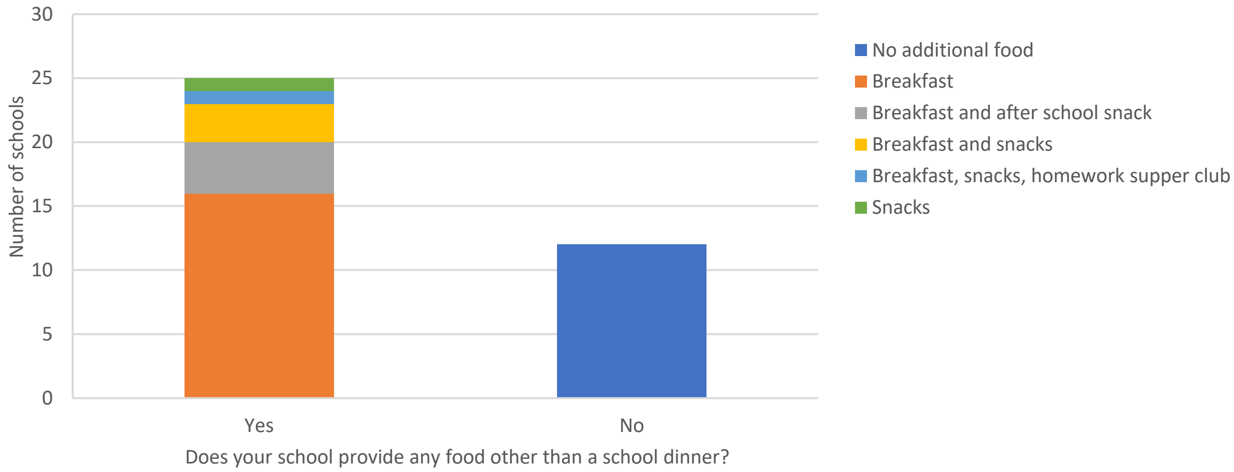

Figure 1.14. Whether schools provide any food other than a school dinner (coloured according to food provision).

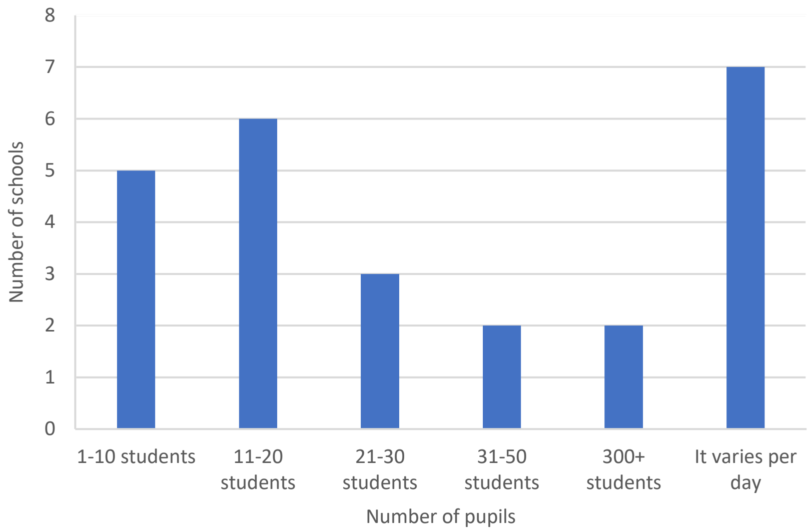

Figure 1.15. The number of pupils that are served food in addition to a school dinner, per day.

Finally, respondents were asked what the what the main obstacles would be in their school switching to a supplier(s) that uses a greater proportion of locally sourced produce. The most commonly perceived barrier to switching supplier was cost, cited by 46% of respondents. However, this reason was disproportionally cited by respondents from maintained schools (56%), relative to respondents from academies (22%). The second most frequently perceived barrier to switching supplier was logistical reasons, cited by 22% of respondents. These reasons include the ability to cater for small numbers of pupils, the possibility of losing catering staff who work for the currently contracted caterers, the management of new suppliers and the fact that the new suppliers would be required to staff and manage the catering facility in addition to providing food. Ten respondents reported that changing suppliers would be problematic due to the decision making process being outside of their control; in seven of these cases respondents told us that the decision to change suppliers was held by their current catering team (Aspens, Chartwells, Interserve and Caterlink), and the others told us that this was due to the fact their school was part of a multi-academy trust (MAT) or was a private financial initiatives (PFI) school. Four respondents told us that they were unsure of a supplier that could offer this service; two of these respondents purchase pre-prepared meals (currently contracted to Sustentation (Cornwall Foods) and Caterlink).

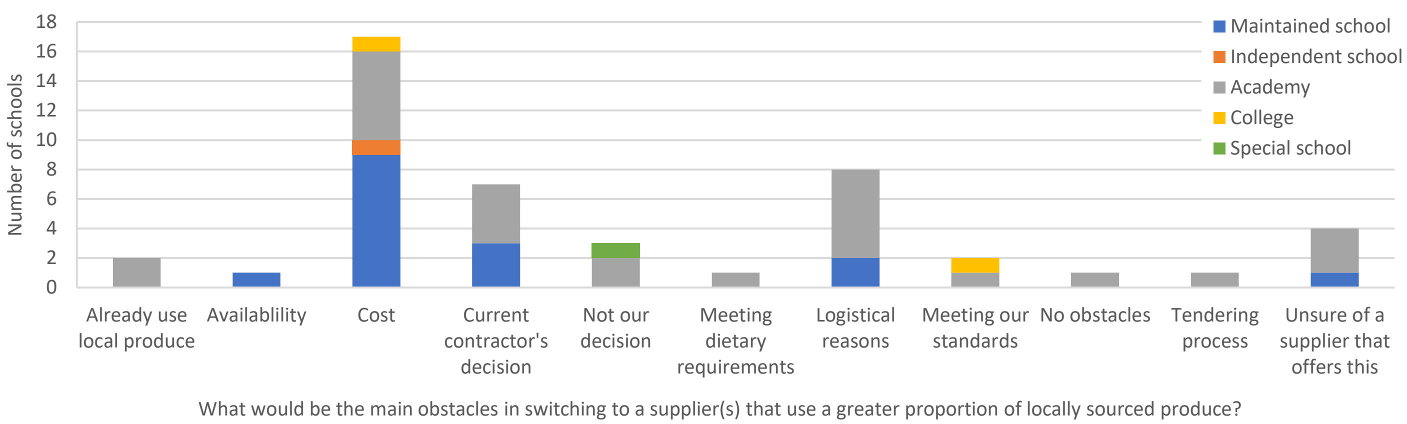

Figure 1.16. The main obstacles in schools switching to a supplier(s) that use a greater proportion of locally sourced produce (coloured according to school type).

1.4 Discussion:

The results of this survey suggest that there is a significant opportunity for increased usage of local produce with the CIoS education sector. Extrapolating from the survey data by accounting for pupil numbers, school type, age group, meal budget and the proportion of pupils who take school dinners, we estimate that the annual spend on school dinners in CIoS is in the region of £1,060,766 (Appendix 1: Table 1). In addition to the estimated annual spend on school dinners there is the further provision of school breakfasts and snacks which was found to be provided in 68% of schools, generally to a small (<30) number of pupils. However, it is worth bearing in mind that this estimate is based on an overall response rate of 15% (n=37/ 246 schools), and in order to improve the reliability of this figure further surveys should be conducted with regards to school catering budgets. A detail which would be helpful to clarify in future surveys is whether the figures provided by respondents in relation to their budget per school dinner refer to the amount that the school spends or the amount that the pupil is charged, as these figures may differ. Further, in future surveys it would be helpful to find what proportion of the total school budget is comprised of food purchasing and related catering costs. This value may differ among schools, as indicated by one respondent from Gorran School (St Austell) who told us that they already subsidise their school meals, to the detriment of their budget. Gorran School currently subcontracts catering to Aspens, who hold contacts with local suppliers (within 50 miles of the school) which provide fresh ingredients.

In contrast to Gorran School, almost half of respondents did not know what proportion of their food was locally sourced (i.e. from Devon or Cornwall), indicating that utilising local produce is not likely to not be a priority when tendering catering contracts or selecting suppliers. The proportion of respondents who did not know what proportion of their food was locally sourced was substantially higher within academies (57%) relative to maintained schools (31%). This may be due the fact that some academies are part of multi academy trusts (of which there are currently 21 trusts operating within Cornwall), and therefore decisions regarding catering contracts may be made centrally by a board of trustees, with less involvement of individual schools in catering decision making (Cornwall Association of Primary Heads, 2020). Of the top five academy schools incorporating the greatest proportion of local produce, all respondents were from primary schools (Ludgvan school, Charlestown primary, Shortlanesend school, St Mary's Catholic Primary School and St Just Primary) which prepare and cook school dinners on-site, with ingredients sourced via a contract or agreement with a supplier. The budget for these schools per dinner ranges from £0.70 to £2.20, with an average value of £1.14. This average value of £1.14 is substantially lower than the average budget of £1.73 across all primary academy respondents, suggesting that despite the majority of respondents perceiving cost to be the main barrier to using more local food, it is indeed possible to incorporate a greater proportion of local produce into school catering without this requiring an increased budget. However, there may be a lack of understanding within school procurement on what is classified as local food (for example, the difference between food that is locally produced/ grown/ reared versus food that is locally purchased from a Cornish business that imports their stock from elsewhere). In this area there may be an opportunity for the CIoS LEP to assist, by providing easily accessible information on local procurement, including promoting local suppliers who already/ are willing to supply schools and perhaps presenting case studies of schools which are already succeeding in utilising a large proportion of local produce in their catering. There may also be an opportunity for the CIoS LEP to provide guidance and specialist skills to schools on how to effectively draft specifications for catering contracts, in order to create the correct service specification and manage the tender to effectively increase local produce incorporation.

Further, the widespread usage of a ‘certification’ scheme via which schools in CIoS can achieve accreditation for demonstrating their usage of sustainable, locally produced ingredients may help to champion the importance of responsibly sourced ingredients by encouraging positive promotion. Such a scheme already exists in the form of the Food For Life scheme, created and managed by the Soil Association. Within this scheme, the membership package provides resources to help schools to meet the awards criteria (ranked gold, silver and bronze), including information on nutrition, recipes, organising farm visits, teaching cooking skills and growing calendars to inspire the creation of school gardens. In addition to being available to schools which employ in-house cooks, this scheme is available to schools which use external catering companies, via the ‘Food for Life Served Here’ and ‘Organic Served Here' schemes, which facilitates the linking of catering companies with suppliers in order to achieve varying levels of accreditation. Within CIoS, four schools (Boskenwyn Community Primary School, Blisland Community Primary School, St Nicholas' C of E VA School, and Antony C of E Primary School) have achieved the ‘Food For Life Served Here’ Gold Award, by working in conjunction with their external caterers to serve ethical food using a large proportion of local ingredients (including a minimum of 15% organic and 5% free range), host community engagement activities and maintain an active relationship with a local farm (Food for Life, 2020a). A further two schools are engaged with the scheme, with Foxhole Learning Academy having enrolled on the membership package but not yet achieved accreditation and Parc Eglos School currently working towards their bronze award by developing a school food policy, producing healthy school food using 75% fresh and seasonal ingredients, involving the school community in planning menu improvements and giving every pupil the opportunity to visit a local farm and take part in cooking and food growing activities (Food for Life, 2020b). Despite the availability of these resources, the current participation rate of schools in CIoS with the Food For Life programme is only 2%. Communicating the benefits of these resources to headteachers via the Cornwall Association of Secondary Headteachers (CASH) and the Cornwall Association of Primary Heads (CAPH) networks may result in improved enrolment rates in the schemes, and may generate discussion on ways in which the schemes could be further improved with respect to schools in CIoS (for example increased number of Cornish producers being listed on the supplier database).

Another way to improve the quality of school catering (both in terms of responsible ingredient sourcing and nutritional quality) is to incorporate learning about food and food production into the school curriculum, including teaching classes on nutrition and sustainability of food systems, forming links with local suppliers and organising trips on which pupils are able to visit local food producers. 86% of respondents told us that their school does tie-in food with the curriculum in some way, with the most popular method of achieving this being through the provision of themed lunches or themed days, often based around the cuisine of foreign countries or calendar events such as St Piran's Day or World Book Day. While these activities may be effective in encouraging pupils to try new food, other activities such as cooking, growing produce and teaching about food production and nutrition were less commonly implemented and might be more effective at promoting sustainable and healthy relationships with food. Further, only two of the respondents reported organising external visits to food or farming events or to local producers. The ability of schools to organise external visits will be limited by funding, staff and volunteer constraints, however the resources available via the National Farmers Union (NFU) Education programme may represent an effective alternative option. Among lesson plans, activities and project ideas for a range of age groups, the NFU Speakers for Schools service is available free of charge to secondary schools and enables farming ambassadors to present on the key issues around food and farming and promote pupil discussion (National Farmers Union, 2020b). Another alternative for schools with a limited capacity to organise external visits could be to display a series of short films centred around food production in CIoS, ranging from the fishing industry and primary production to food processing. The CIoS LEP could engage with lecturers at the School of Film & Television within Falmouth University to discuss the potential for the production of these films, in the form of student projects.

While the majority of respondents (68%) told us that their school reuses or recycles the packaging associated with their catering operations where possible, further resources are available to schools to assist in reducing their environmental impact and minimising their plastic usage via the Ocean Schools and Plastic Free Schools programmes run by Surfers Against Sewage (Surfers Against Sewage, 2020). By contrast, only 46% of respondents told us that their school has a policy to reduce food waste, via methods including composting, waste disposal sinks, foodbank donation and only cooking the required amount. The implementation of a weekly food waste collection service by Cornwall Council in 2021 may facilitate the repurposing of food waste within Cornwall's education sector, particularly for schools which currently do not have the capacity for on-site composting facilities (Resource, 2020).

For schools which purchase pre-prepared meals (19% of respondents), surprisingly only 29% of these return the packaging to the supplier for reuse (in both cases the metal serving containers provided by Caterlink), with a further 14% reporting that they recycle/ reuse the packaging where possible. Further, of the schools which purchase pre-prepared meals 86% of respondents were unsure what proportion of the ingredients were sourced from Devon or Cornwall, relative to 40% of respondents who prepare and cook their meals on-site. Of the catering companies that respondents use to provide their pre-made meals only Sustenation (Cornwall Foods) is based locally, at the Central Food Production Unit (Barncoose, Redruth, Cornwall). Sustenation is capable of producing 14,000 meals per day, with produce transported to the Barncoose unit by the suppliers (J Venables, 2020, personal communication, 22 June). Sustenation reportedly sources produce locally wherever possible and feasible, with over 85% of produce sourced locally at present (Royal Cornwall Hospitals, 2020). Extrapolating from the results of this survey, which suggest that 30% of primary schools in Cornwall purchase pre-prepared meals, then the total number of primary schools within Cornwall that purchase pre-prepared meals may be in the region of 74 schools. With the view of increasing the usage of local produce within school catering, there is therefore a significant opportunity for Sustenation to increase its market share and supply pre-made meals to a greater number of Cornish schools. In order to discuss this opportunity further, we contacted Jill Venables (Head of Facilities, Sustenation), who told us that Sustenation currently supplies pre-made meals to several schools in Devon but did not mention that they currently serve schools in Cornwall, therefore the extent of their services to schools within Cornwall is unknown at present. There may be potential for the CIoS LEP to work with Sustenation in future, to promote the increased usage of local produce within the school catering sector by increasing their market share however, enhanced communication is desperately needed including clarification on how their suppliers are nominated, what proportion of their produce is currently local (including their definition of local), whether they are currently generating a profit and whether there is the ambition and capacity to expand operations in the future. Further, investment into online marketing materials is crucially needed; despite undergoing rebranding in January 2019, neither 'Sustenation' nor 'Cornwall Foods' currently have a website and information on this organisation is extremely difficult to source online, therefore making it problematic for potential new customers to learn about their services (MPAD, 2019).

1.5 Conclusion:

This survey suggests that there is significant opportunity for increased usage of local produce with school catering in CIoS, with annual spending on school dinners estimated to be in the region of £1,060,000. The survey responses indicate that utilising local produce is not currently a priority for many schools when tendering catering contracts or selecting suppliers, with the perceived cost of local produce reported by the majority of schools as the primary obstacle to switching suppliers. In order to facilitate increased procurement of local produce within schools the CIoS LEP could provide easily accessible information on local procurement, including guidance on how to effectively draft specifications for catering contracts. Promoting the widespread usage of a 'certification' scheme via which schools can achieve accreditation for demonstrating their usage of locally produced ingredients in addition to developing resources to incorporate food production and nutrition into the school curriculum may also raise awareness of the issues surrounding the sustainability of food production within the education sector. Finally, this study highlights the opportunity for the CIoS LEP to work alongside the organisation Sustenation to promote the increased usage of local produce with respect to pre-prepared school meals.

2.0 Care sector catering survey:

2.1 Introduction:

In the wake of the COVID-19 pandemic, Cornwall's food and drink sector has become increasingly aware of the fragility of the current supply chains, which has been exacerbated by the reliance of the local economy on the food service, leisure and tourism sector. Increasing supply of local produce into Cornwall's public sector would reduce this reliance, while delivering an increase in the regional demand for local food, minimising food miles and contributing towards meeting the Carbon Neutral Cornwall challenge set by Cornwall Council. At a value of 10-20% of GDP, public sector procurement (also known as government procurement) accounts for a substantial part of the global economy. Within this, the care sector forms a significant part of public sector procurement spend, with hospitals and care homes accounting for 10-20% of total spend (Global City Futures, 2020). Within the UK, the care home sector is worth approximately £15.9 billion per year with around 410,000 residents within 11,300 care homes, of which 235 care homes are situated within Cornwall (GOV.UK, 2017). Therefore, increasing the usage of local produce within care establishments in Cornwall and the Isles of Scilly (CIoS) could facilitate the development of a more regional food supply chain infrastructure, and has the potential to increase the viability of the local food and drink sector. This initiative could also improve the health of residents through the provision of more nutritious food alternatives, which can be instrumental in protecting the elderly from a range of age-related conditions including cardiovascular disease, dementia, bowel problems and osteoporosis (Carehome.co.uk, 2020). In order to investigate the potential for increased usage of local produce within care homes in CIoS we conducted surveys to find out about their current catering arrangements. This work will be used by the CIoS Local Enterprise Partnership to support the development of regional supply chains, nurturing the growth of a diverse base of SME food producers and strengthening the local economy.

2.2 Methodology:

Within Cornwall and the Isles of Scilly there are approximately 235 residential care homes. Many of these care homes are members of Cornwall Adult Health and Social Care (CAHSC) or Cornwall Partners in Care (CPIC). Given the current pressures that care homes are facing as a result of the COVID-19 pandemic, it was decided that contacting the care homes via the associations of CAHSC and CPIC would be the most appropriate method of communication. An online survey was designed, and an invitation to participate in it was distributed to the members of CAHSC and CPIC within their bi-weekly newsletters, twice within the last two weeks of June 2020. The survey was open for a duration of two weeks following the first inclusion in both associations' newsletters (see Appendix 1: Figure 3 for the list of survey questions).

2.3 Results

Due to the method of survey distribution and the fact that CAHSC and CPIC were unable to share data relating to their membership base due to General Data Protection Regulations, the number of care homes that received the survey is unknown. In total, 27 responses were received accounting for 11.5% of care homes in CIoS. The full survey results are available to view on a slideshow which can be accessed by clicking this link . This interactive format enables the viewer to hover the mouse over each response to view the detailed answer, therefore providing a greater depth of information than can be achieved by graphical representation alone. Additionally, the interactive format provides additional insight as it enables the responses to be sorted according to factors such as shopping channel. However, for the purposes of this report key results will be represented graphically.

Of the 27 care homes which responded, we asked them how many residents they typically cater for. Over half of the care homes (59%) cater for between 11 and 30 residents, with 19% of care homes catering for ten or less residents (Figure 2.1). Larger care homes were less common, with 15% catering for between 31 and 50 residents and only 7%

catering for 61-70 residents. The total number of residents catered for by the 27 respondents is 485, with an average value of 18 residents per home.

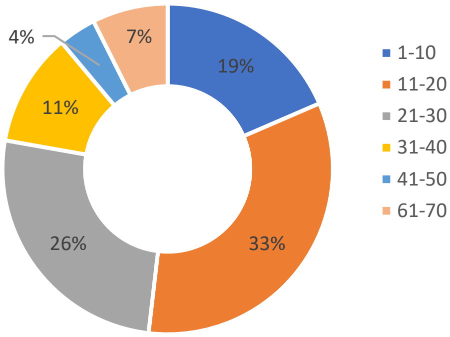

Figure 2.1. The number of residents catered for by the care homes (denoted by colours), with percentages shown for each category.

Respondents were asked whether their care home uses a supermarket/shop for their food provisions or whether they have an agreement with a dedicated supplier. Three of the respondents told us that despite solely using supermarkets for sourcing food provisions in the past they began to use suppliers during the period of lockdown, as a result of not being able to obtain a slot for supermarket deliveries. For the purpose of analysis, the shopping channels of all homes was designated according to their pre-COVID-19 shopping habits. 56% of respondents source their provisions from supermarkets/ shops and 44% of respondents source their provisions from suppliers. Of the care homes which use a supermarket/ shop the greatest number of residents catered for is 40, whereas for the care homes that use a supplier the largest number of residents is 70 (Figure 2.2). Generally, the care homes which use a supermarket/ shop catered for fewer residents (average = 17, range = 1-40) than care homes which use a supplier (average = 31, range = 16-70), with two thirds of the care homes that use a supermarket/ shop catering for less than 20 residents, relative to 17% of care homes that use a supplier.

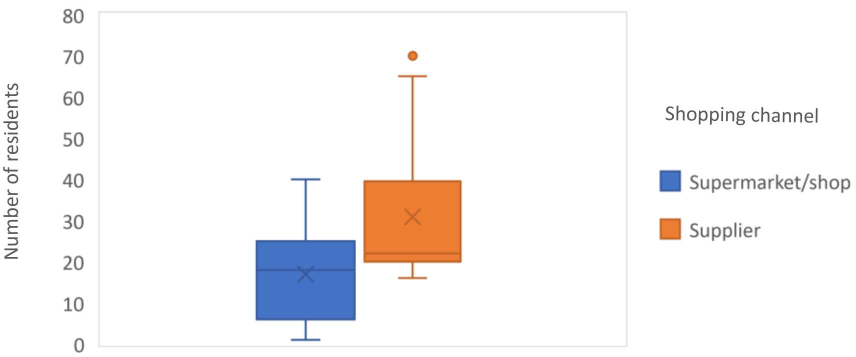

Figure 2.2. The number of residents according to shopping channel (n=15 for supermarket/ shop, n=12 for supplier). The mean number of residents for each shopping channel is denoted with an X.

Respondents were asked what their budget for food provision is per resident per day. 48% of respondents told us that they do not have specific budgets in place for food provision, with explanations including ‘we keep costs under review but do not put a set budget on food; food and quality is a really important part of a residents day’ and ‘we buy what we need’ and ‘we shop for offers’. Of the 52% of care homes that do have a set budget, the range was between £4.30 and £16 per person per day, with care homes that use a supermarket/ shop having a greater budget (average = £9.57, range = £5.00-£16.00) relative to those who use a supplier (average budget = £4.61, range = £4.30-£5.00) (Figure 2.3a). Given that the value of £16.00 was an outlier and was provided by a respondent who cared for a single resident, the same data was plotted again without the outlier, resulting in an adjusted average budget for care homes that use a supermarket/ shop of £9.57 (Figure 2.3b). There was a weak negative correlation between budget and the number of residents catered for, with homes catering for a greater number of residents generally operating on smaller budgets for food provision per person per day (R^2 = 0.39; Figure 2.4).

a) b)

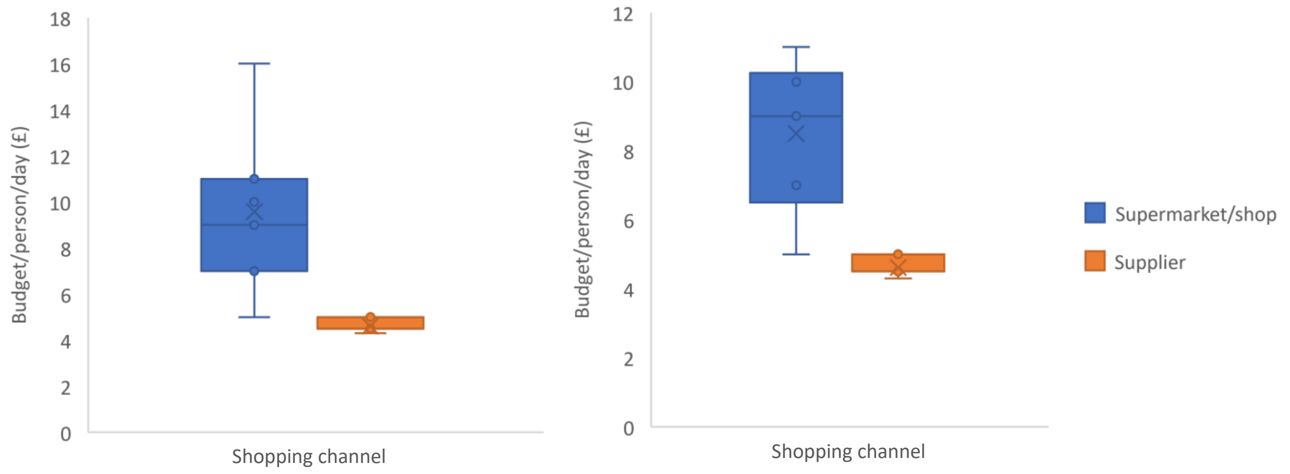

Figure 2.3.
a) Food budget per person per day, according to shopping channel. (n=15 for supermarket/ shop, n=12 for supplier). The mean number of residents for each shopping channel is denoted with an X.
b) Food budget per person per day, according to shopping channel, following the removal of the outlier of £16 visible in part a).

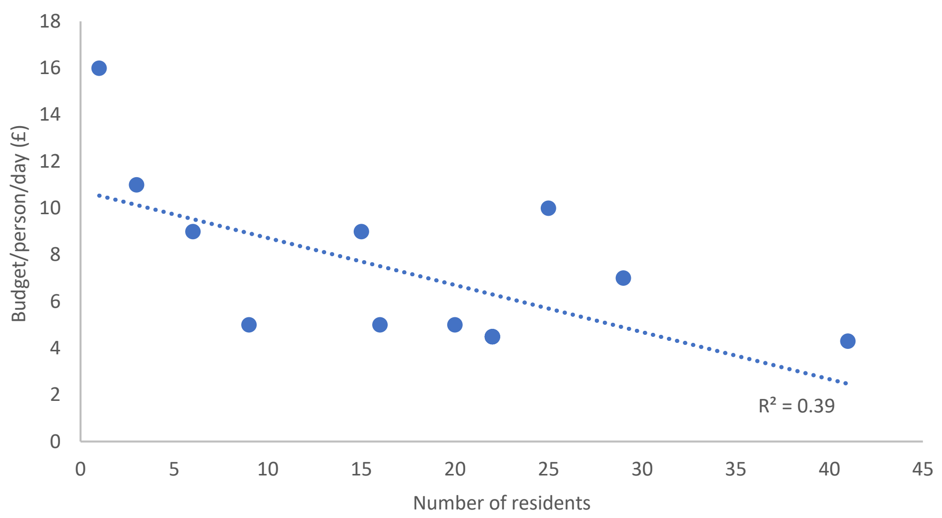

Figure 2.4. The relationship between food budget per person per day and number of residents. The trendline shows the line of best fit, with a coefficient of determination of 0.39 indicating a relatively weak effect size.

Respondents were asked whether they cook their meals in-house or whether they purchase any pre-prepared meals. 100% of respondents (n=27) told us that they prepare and cook all of their meals in-house. Of the respondents which told us that they purchase their food from supermarkets/ shops (n=15), we asked which shops they use (Figure 2.5). 27% of respondents told us that they shop at supermarkets but did not specify the name, with Aldi (13%), Asda (7%), Lidl (13%), Sainsbury's (7%) and Tesco (33%) comprising the named supermarkets used by respondents. A further 40% of respondents shop at a cash and carry (Booker), local greengrocer (33%), local butcher (20%), local farm (7%) and milkman (7%). Respondents were also asked what their reasoning was for selecting these supermarkets/ shops. Of the respondents who provided a response, many provided several reasons which sometimes applied to several shops and may be viewed more clearly via the online slideshow (available here). Competitive pricing was the most commonly cited reason for selecting a supermarket/ shop (accounting for 31% of responses), with product range (14% of responses), quality of produce (8% of responses) and proximity to the care home (19% of responses) also being frequently cited (Figure 2.6).

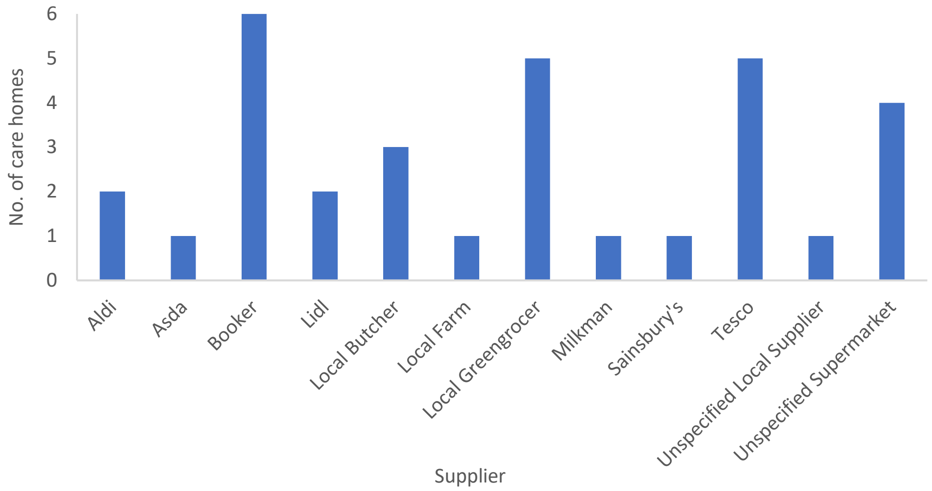

Figure 2.5. The supermarkets and stores used by respondents.

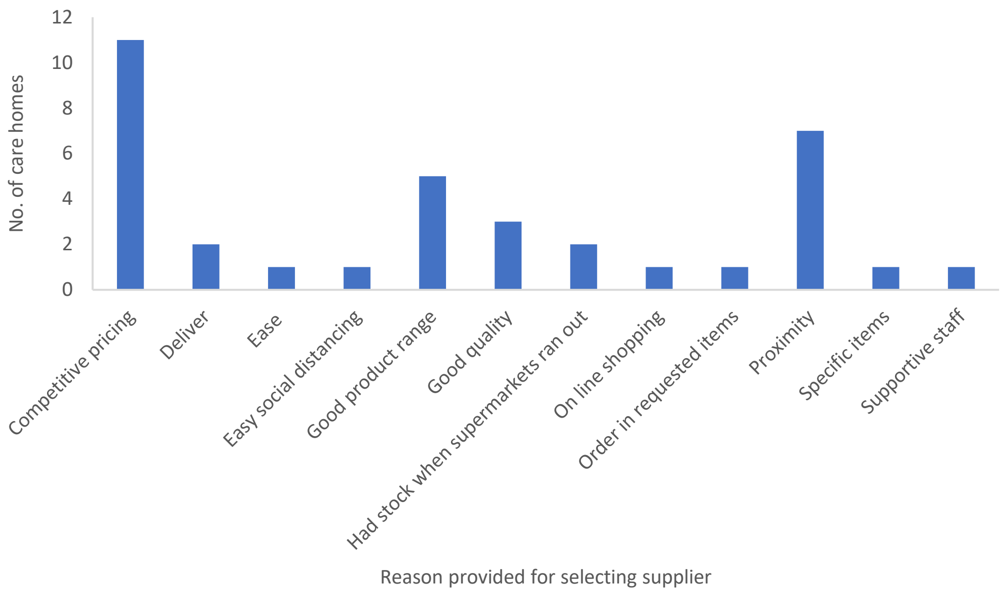

Figure 2.6. The reasons provided by respondents for selecting their supplier(s).

Of the respondents which told us that they purchase their food from a supplier (n=12), we asked which supplier(s) they use (Figure 2.7). In total, 20 suppliers are used by these care homes, ranging from local dairies (Mounts Bay and Trewithen), fishmonger (Matthew Stevens) and butchers (Etheringtons and Scorse) to companies that come under the umbrella of multi-national corporations (Brakes and Bidvest) which are able to supply a wide range of produce from specialised dietary food to frozen and ambient food. Respondents were asked what their reasoning was for selecting these suppliers. Of the respondents who provided a response, quality of produce was the most commonly cited reason for selecting a supplier (accounting for 25% of responses), with a ordering service (20% of responses), delivery service (20% of responses) and competitive pricing (18% of responses) also being frequently cited (Figure 2.8a). Respondents were also asked whether they hold a contract with their supplier(s); 83% (n=10) do not hold a contract with their supplier(s), while 17% (n=2) hold a contract (Figure 2.8b). Of the two respondents who hold a contract, one of these was a rolling contract, and the other was a fixed term contract with MJ Baker (due for renewal in December 2020).

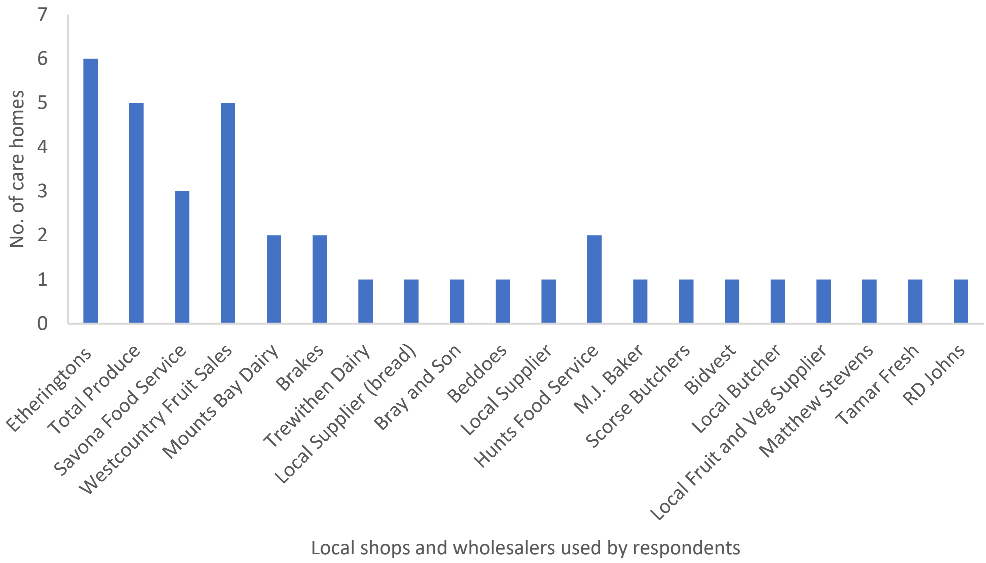

Figure 2.7. The suppliers used by respondents.

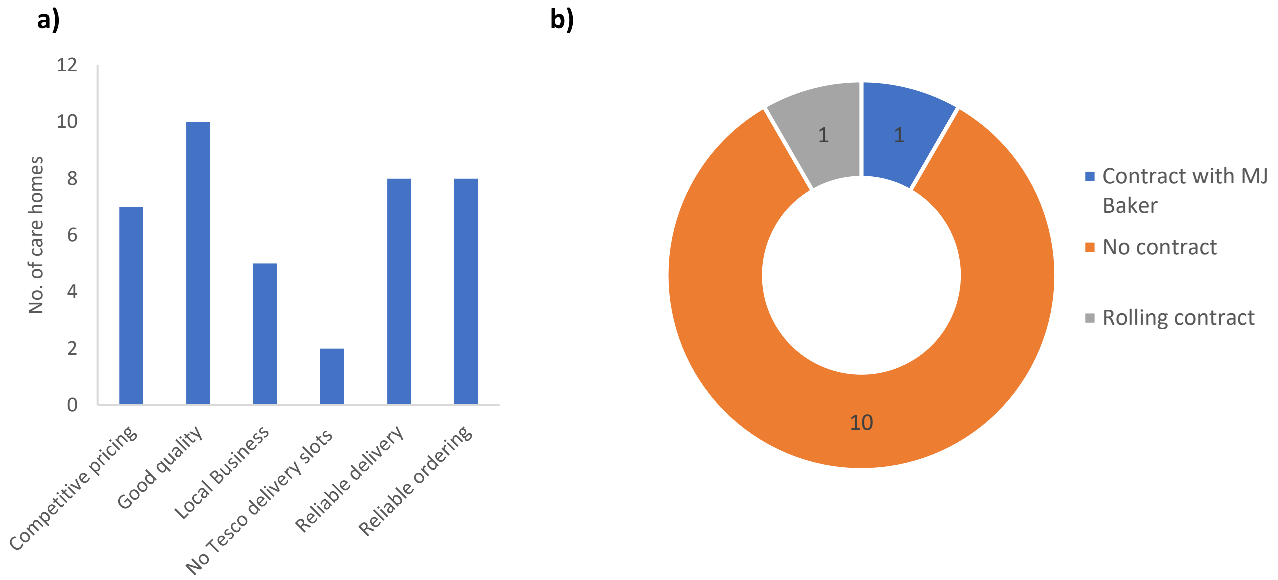

Figure 2.8.
a) The reasons provided by respondents for choosing their supplier(s).
b) Whether care homes have a contract with their supplier(s).

All respondents were asked the frequency of their collection/ delivery of food provisions, with many respondents providing multiple answers depending on produce type. The most commonly cited frequency required was once per week (accounting for 35% of responses), with many respondents also noting that they require additional collection/ delivery of fresh items such as fruit, vegetables and milk more frequently, including twice per week (23% of responses) and daily (19% of responses) (Figure 2.9a). Respondents were asked what their reasoning was for the frequency of food collection/ delivery. Of the respondents who provided a response (n=15), the most commonly cited reasons were limited storage capacity (37% of responses) and maintaining freshness of ingredients (32% of responses) (Figure 2.9b).

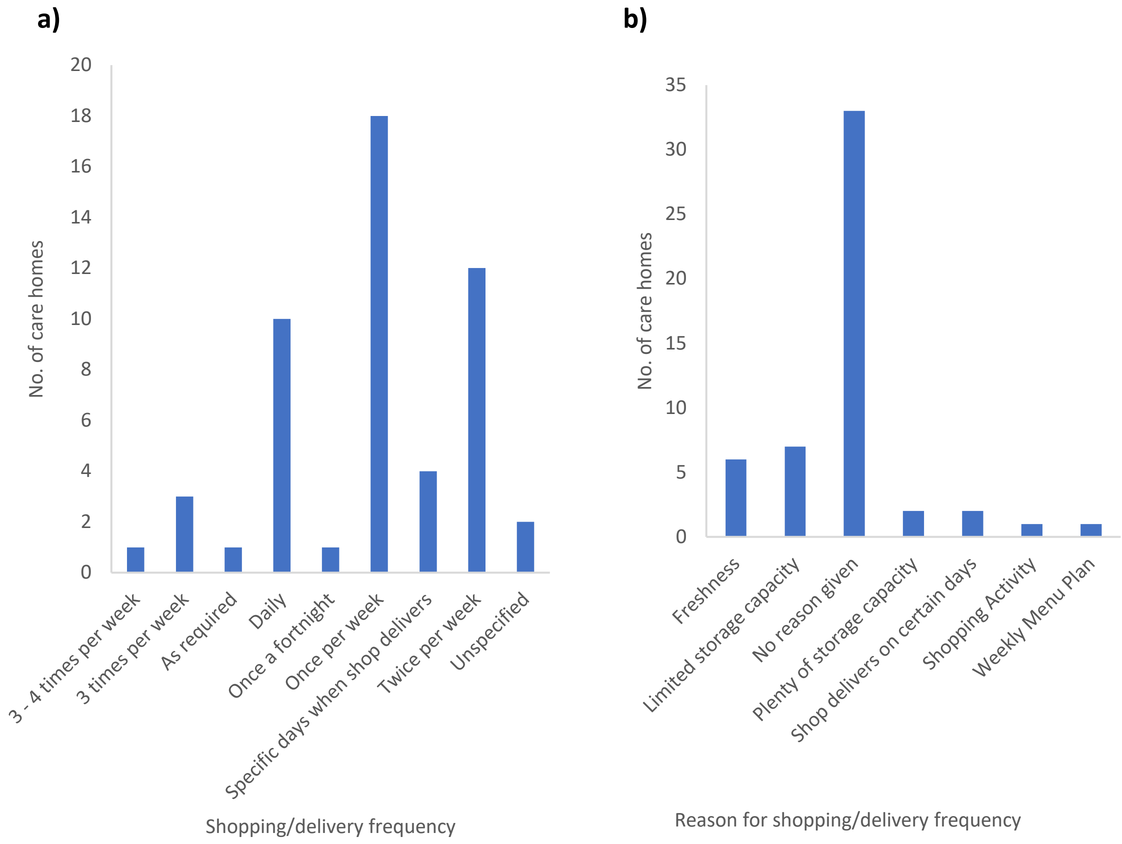

Figure 2.9
a) The frequency of shopping/ delivery for care homes.
b) The reason(s) for the frequency of shopping/delivery for care homes.

Respondents were asked whether their care homes reuse or recycle the packaging associated with their catering operations. 73% of the care homes that use a supplier reuse or recycle some of their food packaging, relative to 83% of care homes that use a supermarket/ shop for food provisions, with many respondents answering that they try to recycle as much as possible (Figure 2.10a). Of the care homes that don’t reuse or recycle their food packaging, one mentioned that in order to do so they would be required to use a private waste collection contractor. Respondents were also asked whether they have a policy in place to reduce food waste. 42% of the care homes that use a supplier have a policy in place to reduce food waste, relative to 60% of care homes that use a supermarket/ shop for food provisions (Figure 2.10b). Methods of reducing food waste included composting, trying not to over-order, using left-overs the next day and freezing left-overs.

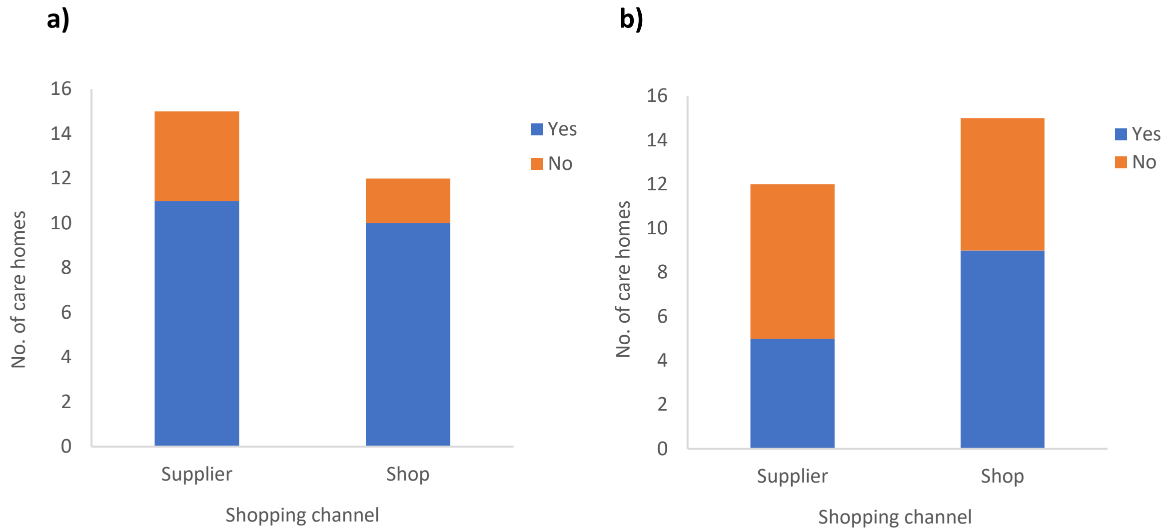

Figure 2.10.
a) Whether care homes re-use or recycle packaging, according their shopping channel.
b) Whether care homes have a food waste policy, according their shopping channel.

Respondents were asked what proportion of their care homes' produce is sourced locally (i.e. from Cornwall or Devon). Of the care homes which use a supermarket/ shop for food provisioning, 40% of respondents were unsure what proportion of their produce is locally sourced, with the responses of those who did know ranging from 10% to 90% (Figure 2.11a). A greater proportion of respondents who used a supermarket or shop to purchase food were unsure what proportion of their food is locally sourced (40% of respondents), relative to those who used suppliers (33%). The average proportion of local food used by respondents who use a supermarket or shop to purchase food is 55%, relative to an average proportion of 59% among respondents that use suppliers (of those who provided a value) (Figure 2.11b). Some respondents did not provide a percentage value on the proportion of local produce that they use but noted that they try to use as much local produce as possible or use a Cornish butcher or buy local eggs, vegetables and dairy products.

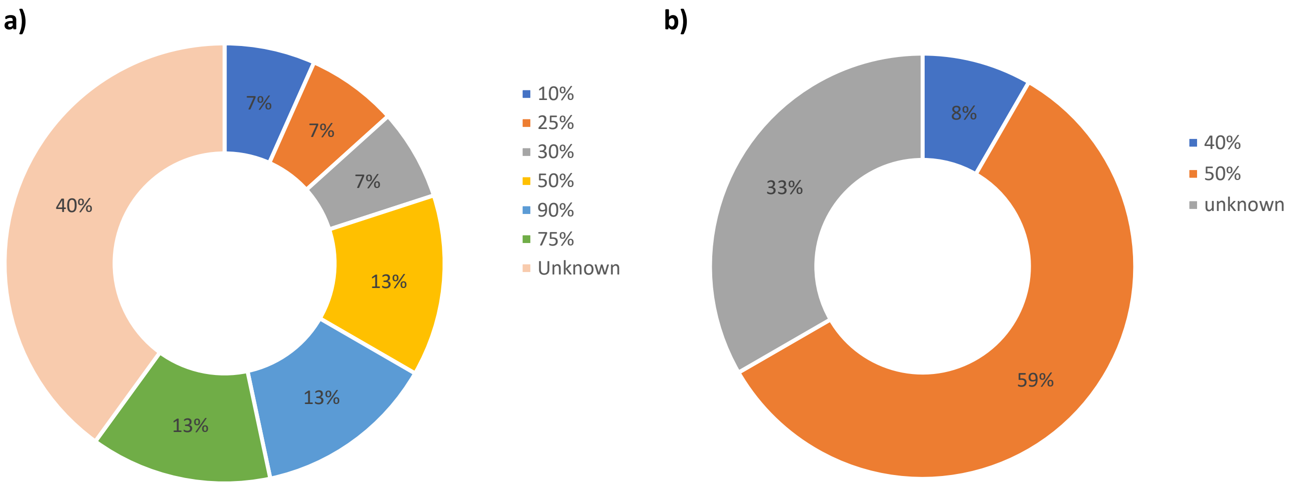

Figure 2.11.
a) The percentage of local produce used by care homes which purchase ingredients through a supermarket/ shop (denoted by colours), with percentages shown for each category.
b) The percentage of local produce used by care homes which purchase ingredients through a supplier (denoted by colours), with percentages shown for each category.

Finally, respondents were asked what the main obstacles would be in their care homes switching to a supplier that provides a greater proportion of locally sourced produce. The care homes which use a supermarket/ shop for food provisions provided a greater range of obstacles than those using suppliers. Price was perceived to be the most common obstacle for care homes that use supermarkets/ shops (accounting for 39% of responses), followed by the fact that care homes already use local suppliers (22% of responses) and concerns that an alternate supplier would not be able to provide them with all of the provisions that they require (18% of responses) (Figure 2.12a). In contrast, concerns that an alternate supplier would not be able to provide them with all of the provisions that they require was the most common obstacle perceived by care homes that use a supplier, accounting for 42% of responses. This was followed by price (22% of responses) and the fact that care homes already use local suppliers (16% of responses) (Figure 2.12b). Both care homes who obtain food provisions through a supermarket/ shop or via a supplier responded that they do not know of an alternate supplier who could offer this service, accounting 9% and 5% of responses respectively.

a) **b)**

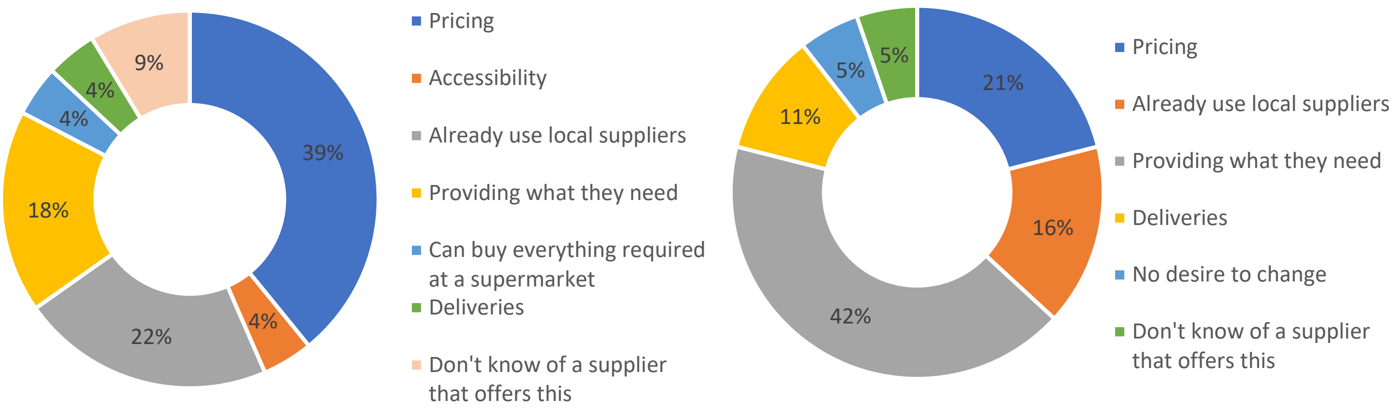

Figure 2.12.
a) The main obstacles in care homes that use a supermarket/ shop switching to a supplier(s) who provides a greater proportion of local produce (denoted by colours), with percentages shown for each category.
b) The main obstacles in care homes that use a supplier switching to a supplier(s) who provides a greater proportion of local produce (denoted by colours), with percentages shown for each category.

2.4 Discussion:

Given the current pressures that care homes are facing as a result of the COVID-19 pandemic, coupled with the fact that Cornwall's care homes have reportedly been inundated with requests to complete surveys during this time period, this survey obtained a response rate 11.5%, therefore providing a good platform upon which to base further work (M Thomson, 2020, personal communication, 06 July). A larger sample size would provide a more reliable insight into the mechanisms of food purchasing within the care home sector in CIoS, therefore we suggest that the CIoS LEP could conduct a subsequent survey to investigate key areas of interest in more detail once the COVID-19 pandemic has ended, as care home managers may be better able to spare the time to participate.

The care home sector is worth approximately £15.9 billion to the UK economy per year, consisting of 5,500 care providers and 11,300 care homes and is set to grow rapidly in the near future, with the number of people over the age of 85 predicted to rise by 36% (500,000 people) between 2015-2025 (GOV.UK, 2017). Cornwall comprises 2.08% (235/ 11,300) of the UK's care homes, with this industry therefore contributing approximately £331 million to the local economy annually (Appendix 1, Table 2). Extrapolating from the figures obtained in this survey for spend per resident per day (average budget £6.41, excluding the £16 outlier), we estimated the total annual spending on food provision for the 5,000 care home residents in CIoS may be in the region of £11,690,000 (Cornwall Council, 2020; Appendix 1, Table 2).

Among the most interesting findings of this survey was the fact that none of the respondents told us that they purchase pre-prepared meals, with all respondents stating that they prepare and cook all meals in-house. This result was unexpected, given that conditions such as dementia often require specialised meals in individual portion sizes which are commonly bought pre-prepared and Cornwall contains numerous care homes which specialise in catering for residents with dementia (Cornwall Council, 2020). Specialised pre-prepared meals catering for residents with dementia and other mental and physical conditions are available through suppliers such as Bidvest (Bidfood) and Brakes, both of whom were listed as suppliers by survey respondents. Furthermore, the locally based Sustenation (Cornwall Foods) at the Central Food Production Unit (Barncoose, Redruth, Cornwall) informed us that they have the capacity to cater for specialised diets and are able to produce 14,000 blast frozen meals per day (J Venables, 2020, personal communication, 22 June). Sustenation reportedly sources produce locally wherever possible and feasible, with over 85% of produce sourced locally at present, however the current market share of Sustenation within the care food catering sector in CIoS is currently unknown (Royal Cornwall Hospitals, 2020).

Another surprising finding was the fact that the majority (56%) of respondents sourced their produce from supermarkets/ shops which may more time consuming than purchasing via suppliers, although the homes who used supermarkets/ shops generally catered for fewer residents. Care homes which used supermarkets/ shops had larger budgets and a greater range of budgets for food per person per day than care homes which used suppliers. This could suggest that care homes which source produce from supermarkets/ shops (and generally have fewer residents) take a less systematic, more ad-hoc approach to food purchasing. This theory is supported by the fact that a larger proportion of care homes which source produce from supermarkets/ shops told us that they don't have a set budget for food relative to those who use suppliers, citing reasons such as 'we just buy what we need, when we need it' and that 'we work with what's on offer at local shops and supermarkets'. Given that the supermarkets and shops have a greater share of the market than was initially hypothesised by the CIoS LEP Rural Sub-group, the systems by which care homes plan menus, budget and place orders may represent an area for future research.

A greater proportion of respondents who used a supermarket/ shop to purchase food were unsure what proportion of their food was locally sourced (40% of respondents), relative to those who used suppliers (33%). The fact that these respondents are unaware of what proportion (if any) of their food is sourced locally may be an indicator that they are not purchasing a great deal of local produce or that they do not read product labels to look for the origin of food products. In contrast, the respondents who provided approximate figures for their local food usage evidenced this by providing the names of the local suppliers or products that they use. However, there is a risk that although a care home is procuring their food from a 'local supplier', the produce itself may originate from elsewhere in the UK, Europe or even further afield. For example, several care homes reported using Scorse Butchers in Helston as a supplier of produce. The Scorse Foods website states that 60% of their produce comes from the West Country; therefore, it can be concluded from this statement that 40% of their produce comes from outside of the West Country (Scorse Foods, 2014). Despite the fact that Scorse Foods are open about the origin of their produce, some purchasers may presume that the produce they are buying is local. According to the "origin or provenance" (Directive 2000/13/EC) the country of origin is deemed to be the place of last substantial change, for example if an animal was born and reared in one country but butchered or processed in a second country then the country of origin would be assigned as the second country rather than the first. This is consistent with the Trade Descriptions Act (1968, section 36) which states that "goods are deemed to have been manufactured or produced in the country in which they last underwent a treatment or process resulting in a substantial change" (Food Standards Agency, 2007). Changes have been scheduled regarding the labelling of products and the provenance of their primary ingredients, however these changes will not be enforced in the UK until December 31st 2020; after which it is understood that the UK's labelling requirements will mirror those of the EU (Burges Salmon, 2019).

While it is inevitable that the care sector in CIoS will rely on imports from elsewhere in the UK and abroad for certain produce, this survey highlights the opportunities for increased uptake of local produce and awareness of sustainable purchasing. The responses gained suggest that there is a potential lack of foresight and systematic planning within the care home sector, in terms of the way in which care homes budget and procure their food. Further, among the care homes which use supermarkets or shops to purchase their food there is a common perception that using a greater proportion of local food would not be cost effective and that it may be difficult to find a supplier(s) that can cater to their needs. Further work could investigate whether the care homes which are more expensive to reside at spend more per person on food provisioning; if this is the case then these homes would represent a suitable target for the CIoS LEP to approach with respect to increasing usage of local produce. However, independent care providers are often comprised of both privately paid and local authority (LA) funded residents, with one quarter of the UK's care homes catering for three quarters of the UK's LA funded residents (GOV.UK, 2017). Government data suggests that the fees paid by LAs are on average 10% less than the cost of caring for a resident. The fees paid by the self-funded residents subsidise the fees paid by the LA funded residents, therefore there may be a correlation between the proportion of self-funded residents within a care home and the budget for food per resident, although the link between a care home's fees and their budget for food may be more complicated. Initial investigation into this topic could be based on data on care home turnover held by the Care Quality Commission (CQC). The CQC also holds data on the quality of food that is served by care homes, in the form of inspection reports. Using this data, the quality of food (in particular, whether the food meets CQC nutritional requirements or is of high nutritional quality) could be compared with the food provision budget of care homes (Care Quality Commission, 2020). A further area for investigation could be whether there is a relationship between food budget and the location of care homes. Nearly all newly established care homes are built in areas where they are able to focus on securing self-funded residents, therefore care homes in locations with a higher socio-economic status may have an elevated budget relative to care homes which are largely LA funded, potentially resulting in an increased budget for food provisioning per resident within certain geographic regions (GOV.UK, 2017).

Another area within which there is potential for increased usage of local produce is the domiciliary care sector, the providers of which were not targeted by our survey. The domiciliary care sector is predicted to grow, as despite the UK's ageing population the absolute number of long-term residential accommodation declined by 4.4% between 2001 and 2016 (Grant Thornton, 2018). If the availability of long-term residential accommodation for the elderly does not increase, there will be an elevated proportion of elderly people relying on domiciliary care. It is also predicted that the housing-with-care market (also known as the retirement living market) will increase in the near future (Grant Thornton, 2018). Growth within the housing-with-care and the domiciliary care market could provide an opportunity for suppliers of pre-prepared meals, with the prospect for suppliers such as the locally based Sustenation to capture the Cornwall and Devon portion of the market.

2.5 Conclusion:

There is a real opportunity for increased usage of local food within the care sector in CIoS, but greater awareness surrounding the availability and competitive pricing of local suppliers and the effective utilisation of seasonal produce may be needed to facilitate uptake. The two membership bodies of CAHSC and CPIC are currently investigating the potential for collaborative purchasing of personal protective equipment, with the hope of expanding this to include food purchasing in future (M Thomson, 2020, personal communication, 20 July). CAHSC and CPIC also plan to host a care forum to encourage sector cohesion, within which other organisations such as the CIoS LEP, the NFU and Cornwall Council's health and well-being board may be able to contribute in order to raise awareness of the possibilities for local produce procurement within Cornwall and Devon. Initiatives such as the South West Food Hub (piloted by the Crown Commercial Service) may further facilitate future procurement of local food by care homes in CIoS, by providing a platform through which local food and drink suppliers are able to qualify for and compete for tenders, enabling them access to public sector food procurement (South West Food Hub, 2020). Further, there may be opportunities for the Cornwall based Sustenation to increase its market share, as they currently supply meals comprised of over 85% local produce to the Royal Cornwall Hospital Trust (RCHT) and their suppliers already have accreditations in place for public procurement (Royal Cornwall Hospitals, 2020). In addition, Sustenation has the facilities for producing and importantly labelling specialised dietary meals, the demand for which may be increasing within the CIoS care sector in the coming years (J Venables, 2020, personal communication, 22 June).

Co-organising an event may be an effective way for the CIoS LEP to gather representatives from across the food and care sector to spark discussion and encourage collaboration with respect to increasing the usage of local produce within care sector catering. The COVID-19 pandemic has revealed that such events are able to function effectively on a virtual basis, requiring minimal financial input relative to hosting an event at a physical venue. Key participants could include members of the CIoS LEP, the NFU, the Cornwall Council Health and Well-being Board, CAHSC, CPIC and the CQC. Invitees could include care home managers, care home chefs, local producers/ suppliers and farm shop owners. The event could include a showcase of care homes which already utilise a large proportion of local produce while meeting the CQC standards for nutrition and hydration, with speakers talking about their supplier relationships and local producers suggesting ideas/ resources for planning seasonal menus. Speakers could include Greg Parsons of the South West Food Hub, providing information on the pilot and the way in which care homes and producers in CIoS may utilise the platform in future. The event may also provide a promotional opportunity for local pre-made meal producers such as Sustenation to speak about their usage of local produce within specialised meals developed for the care sector.

Concluding quote: "*Now is an inflection point for social care. There has never been a more critical time to focus on this area. How older people are cared for is the barometer of any civilised society so it is something we need to get right*" - Daniel Smith (Grant Thornton, 2018).

3.0 Farm shop survey:

3.1 Introduction:

With a combined turnover of £1.5 billion, the UK's network of farm shops play an important role in the rural economy, supporting thousands of independent suppliers from family farms to artisan producers and providing access to locally grown produce using short supply chains with lower food miles and carbon footprints (Open Retail, 2020). In the height of the COVID-19 pandemic many of these farm shops have become a more attractive option for shoppers relative to larger supermarket stores, implementing simple social distancing measures to create a calm and reassuring shopping environment. In addition to serving communities and helping to ease the pressure on the larger retailers, these stores have provided a route to market for many farmers and independent producers who have seen their usual supply chains disrupted as a result of the pandemic. Importantly, the short supply chains typically employed by farm shops are more robust to disruption than the long, rigid food supply chains employed by supermarkets which are frequently overly-reliant on imports (Dynamic Food, 2020). The CIoS LEP indends to support the development of the county's 56 farm shops in the wake of the pandemic; to ensure that they continue to thrive. In order to inform their strategy we conducted a survey of these farms shops to better understand the effects that the pandemic has had on their trade, product range and operating procedures; in addition to identifying key areas for future support.

3.2 Methodology:

We contacted 56 farm shops across Cornwall and the Isles of Scilly to find out how their businesses had been affected during the COVID-19 pandemic. Shops were contacted via an intodsuctory telephone call and invited to participate in the survey. Suveys were conducted over the phone, with the option for respondents to complete the questions via email if they were busy at the time of the introductory call (see Appendix 1: Table 3 for the list of survey questions).

3.3 Results:

In total, 19 businesses responded to the survey (see Table 3.1 for the regional distribution of respondents). The full survey results are available to view on a slideshow which can be accessed by clicking this link, as this interactive format enables the viewer to hover the mouse over each response to view the detailed answer, therefore providing greater depth of information than can be achieved by graphical representation alone. Further, the interactive format enables the responses to be sorted according to the regional distribution of the respondents, providing additional insight. However, for the purposes of this report key results will be represented graphically.

Table 3.1. The regional distribution of the 19 farm shops which responded to the survey.

Location	Number of respondents
North Cornwall	7
East Cornwall	5
South Cornwall	2
West Cornwall	3
Mid Cornwall	2

Respondents were asked whether their sales had changed in the period since lockdown was announced. 74% of respondents reported an increase in sales (Figure 3.1a), with many respondents stating that this increase was most apparent during the first six weeks of lockdown (in one instance daily shop sales increased by 400%). Respondents who reported an increase in sales were then asked whether this increase been sustained (until the date of the interview, week commencing 15th June 2020). Half of the respondents reported that the increase in sales was ongoing, however 36% of respondents reported that the increase was now dropping off and 14% of respondents reported that sales were now below average for the time of year (resulting from lack of tourism, with one respondent commenting that restrictions are preventing the operation of the farm tearoom) (Figure 3.1b).

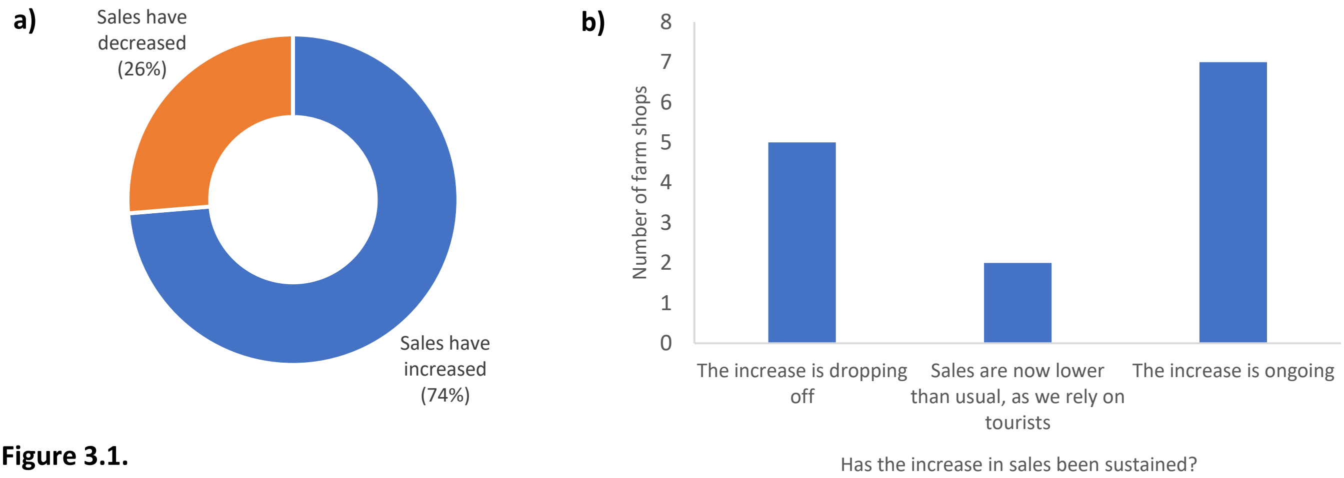

Figure 3.1.

a) The effect of lockdown on farm shop sales.
b) Whether the increase in sales has been sustained from 23rd March – 15th June.

Respondents were asked from which region they generally sourced their produce, prior to the COVID-19 pandemic. Over one third of respondents reported that their produce was solely sourced within Cornwall; these businesses were situated on farms and largely sold their own produce, with additional items (vegetables, fruit, honey, dairy, meat) sourced from other local farms. Over half of the respondents sourced the majority of their produce from within Cornwall, with some items such as seasonal fruit and handmade and artisanal products sourced from other areas in the South West (Figure 3.2).

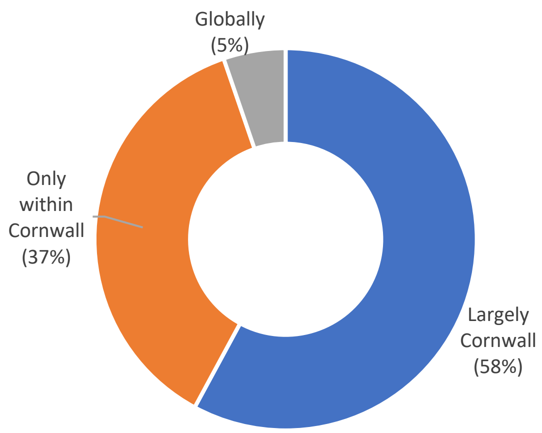

Figure 3.2. The regions from which respondents generally sourced their produce, prior to the COVID-19 pandemic.

Respondents were asked if they were required to extend the range (in terms of distance) from which they sourced produce in response to the COVID-19 pandemic. Over half of respondents reported that they did not extend the range from which they sourced their produce. However, 37% of respondents reported that they used wholesalers to source produce that they wouldn't have usually stocked prior to the pandemic (for example rice, pasta and tinned goods), which resulted in a significant expansion in range, both within Europe and globally. Specific examples included purchasing apples from the Netherlands and exotic fruit from a global range to satisfy customer demands.

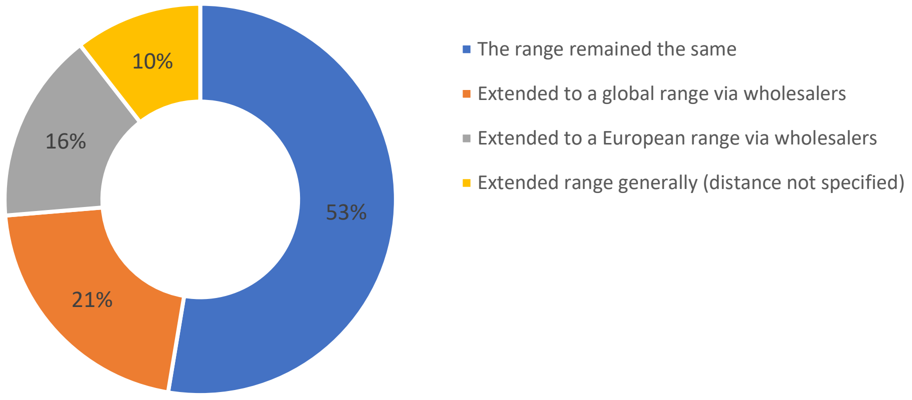

Figure 3.3. The proportion of respondents which extended the range from which they sourced produce, in response to the COVID-19 pandemic.

Respondents were asked if they had difficulty in sourcing any products and whether they knew the reasons why these products were unavailable or limited (Figure 3.4 a, b). In particular, baking ingredients (flour, yeast, vanilla essence and eggs) were reported to be difficult to source, as a result of changing consumer behaviour leading to an increase in home baking and therefore national shortages of flour packaged in small bags. Three respondents reported difficulty in sourcing fruit and vegetables, including iceberg lettuce, cauliflower and Savoy cabbage. In the case of cauliflower and Savoy cabbage this shortage was reported to be due to dry weather resulting in poor growing conditions leading to low availability and high demand. In the case of iceberg lettuce this item was typically imported from Europe, so was unavailable due to transport restrictions leading to an elevated price. In the majority of cases, supply and demand was reported to be the cause of product shortages, including those which were imported from abroad (for example disrupted supply chains resulting in a lack of yeast, flour, pasta and tinned tomatoes from Italy), although bottlenecks in supply were said to abate within several weeks.

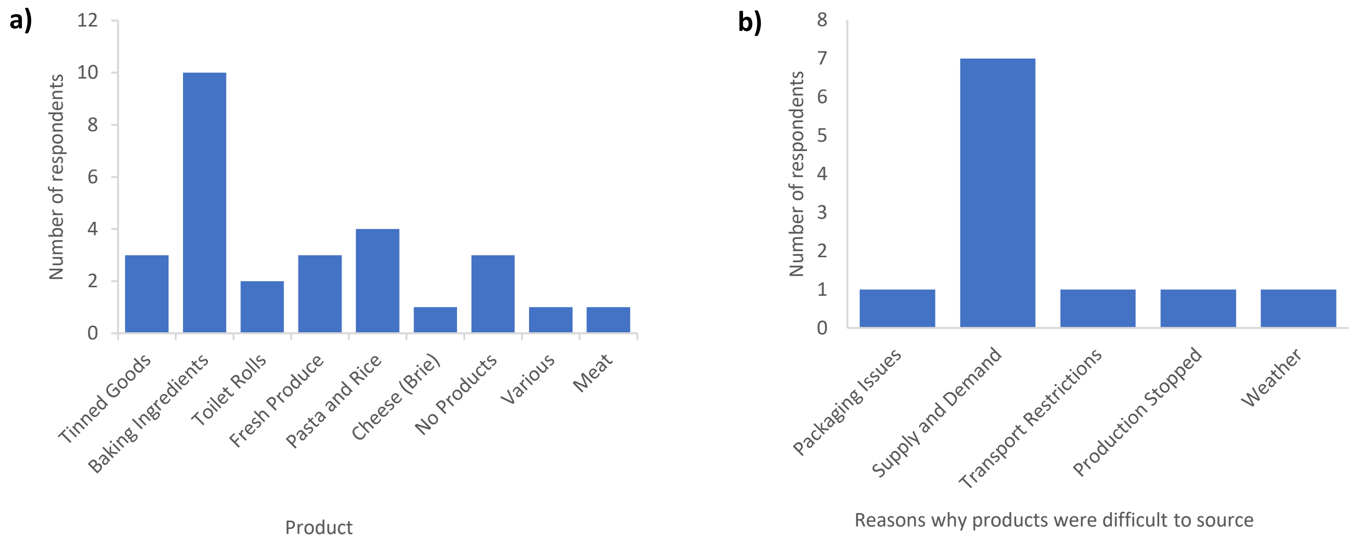

Figure 3.4.

a) The product types which respondents reported to be difficult to source during the COVID-19 pandemic.
b) Reasons provided by respondents on why products were difficult to source during the COVID-19 pandemic.

Respondents were asked whether they increased their product range during the pandemic and if so; what their reasons were for stocking additional items (Figure 3.5 a, b). With the exception of two shops, all respondents reported increasing their product range, with many of these expanding their range significantly. In 79% of cases, the expansion in range was in response to customer requests, particularly to maximise customer satisfaction and to cater for those who were avoiding visiting supermarkets and reportedly ‘felt safer’ visiting farm shops. One respondent reported stocking additional items in order to assist suppliers who were struggling to sell their produce (although the produce was not specified).

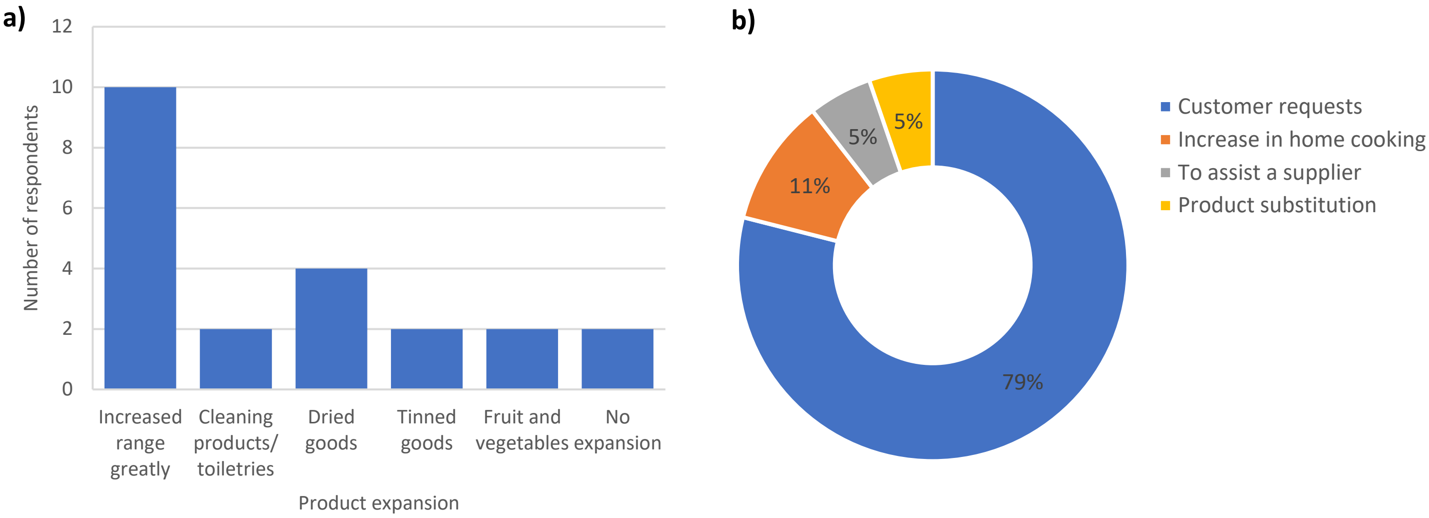

Figure 3.5.

a) The types of products which respondents began to stock in addition to their usual range, in response to the COVID-19 pandemic.
b) The reasons provided by respondents for stocking these additional items.

Respondents were asked whether they sell their products online; if yes, did they begin selling online in response to the pandemic; if no, did they have plans to sell online in the future (Figure 3.6 a, b, c). The majority (58%) of participants do not currently sell online, with approximately half (54%) of these stating that they do not have plans to sell online in the future. Among these respondents, one farm shop owner said that running an online service would not be viable given the small margins on fruit and vegetable sales and the staff hours required to administer the process. Further, another responder commented that the elderly portion of their customer base would not be comfortable with ordering online and prefer to place orders over the phone. Of the shops that sold online, 71% of these already sold online prior to the COVID-19 pandemic, with one respondent reporting that their shop halted online sales during lockdown to prevent customers ordering vast quantities of products that they were unable to supply.

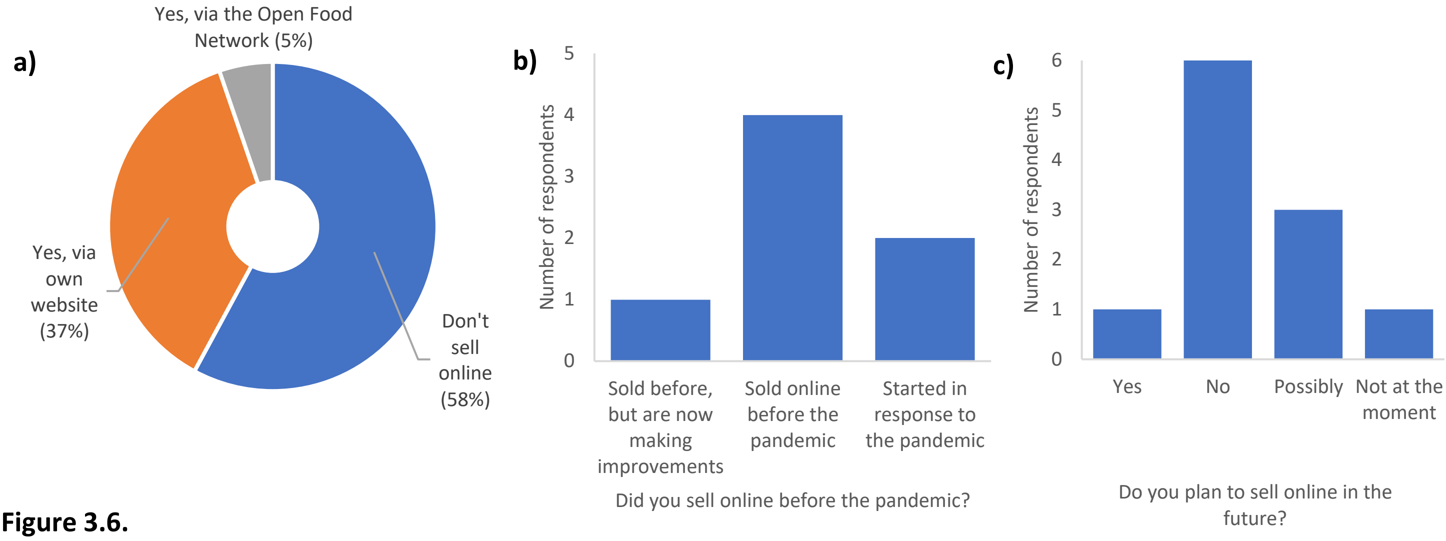

Figure 3.6.

a) The proportion of farm shops that currently sell their products online.
b) Of the farm shops that currently sell online, whether this was in response to the COVID-19 pandemic.
c) Of the farm shops that don't currently sell online, the proportion of these that plan to sell online in the future.

Respondents were asked if they were planning to expand their business in response to changes experienced during the COVID-19 pandemic (Figure 3.7). 42% of respondents did not plan to expand their business, citing a lack of physical room for expansion, planning restrictions and the risk of increasing business rates as the reasons for this. However, 37% of respondents were considering expanding their business in the future, with 5% having expanded during the pandemic. Of these, some commented that the increased footfall had given them the impetus with which to explore expanding their business further, with planned/ recent expansions including a new website, polytunnels containing seating areas, a new store and additional transportation vehicles.

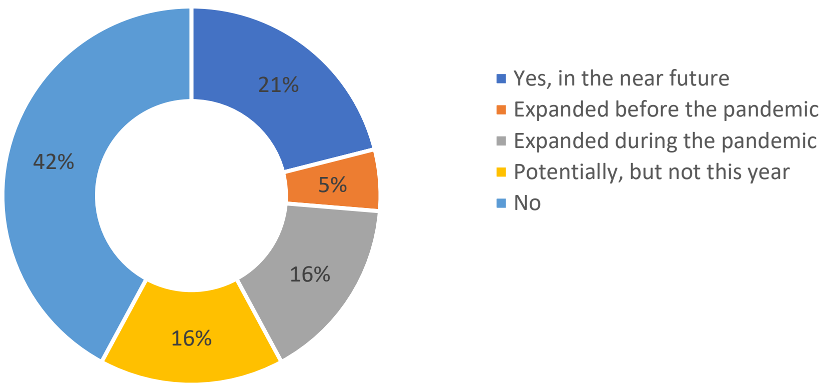

Figure 3.7. The proportion of farm shops that have plans to expand their business.

Respondents were asked what they thought would be the greatest challenge for their business in the period following the COVID-19 pandemic (Figure 3.8). While many respondents had noted increased local support and customer base at the height of the lockdown restrictions, 42% were concerned about retaining these customers in the long-term. A further 31% were concerned about the financial viability of their business if tourist levels were reduced over a longer time period (for example if heightened travel restrictions were reinforced). Complying with the current COVID-19 social distancing regulations was a concern for 21% of respondents, in terms of managing queues, operating safely and generating sufficient revenue with a 'one in one out' policy. For one respondent, their greatest concern was the ongoing closure of their tearoom due to COVID-19 restrictions, as this aspect of their business generated the majority of their income. One participant was worried about the greater economic impact of the pandemic on the country as a whole.

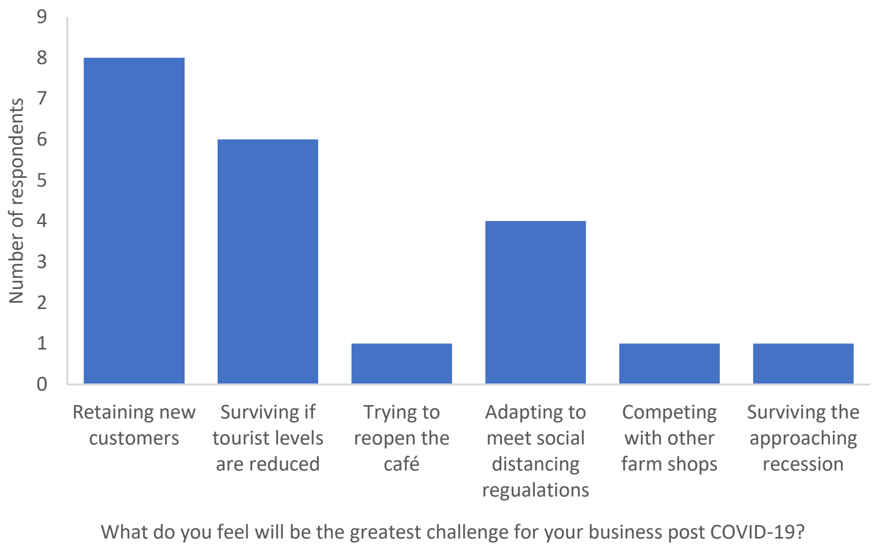

Figure 3.8. The greatest challenge perceived by farm shop owners for their business, following the COVID-19 pandemic.

Respondents were asked whether their customers ever comment on their prices, and whether they as the business owner ever compare their prices to those of a supermarket (Figure 3.9 a, b). 90% of respondents said that their customers do not comment on their prices. However, one respondent noted that a customer had commented positively, saying that their prices were cheaper than those of a supermarket. Over two thirds of respondents reported that they do not compare their prices to those of a supermarket, based on the premise that their products are not comparable or are of higher quality relative to those available in the supermarket. Similar reasoning was provided by one third of respondents who do compare their prices to those of a supermarket, although the majority commented that they don't try to 'price match' and this would not be feasible due to their products being of higher quality/ belonging to a different product range.

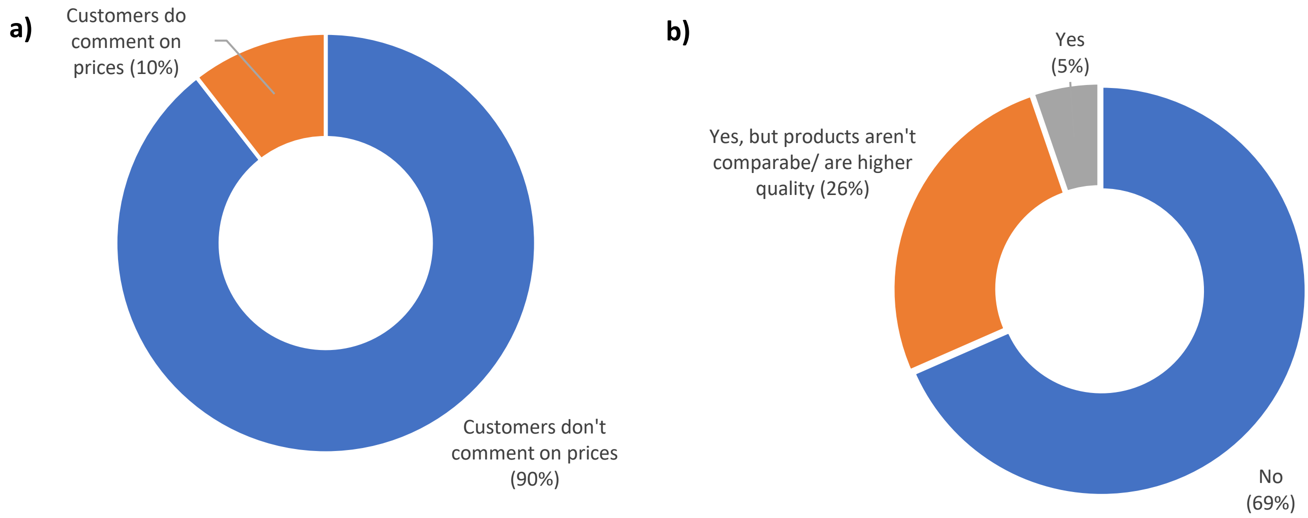

Figure 3.9.

a) The proportion of respondents who reported that their customers comment on their prices.

b) The proportion of respondents who compare their prices with those in the supermarket.

Finally, respondents were asked if they had set up a delivery or "click/ phone and collect" service in response to the COVID-19 pandemic; and if they did, whether they thought they would continue with this service following the pandemic (Figure 3.10 a, b). 58% of respondents set up this service in response to the pandemic, with many commenting that this was in order to respond to the needs of their elderly/ vulnerable customers, those who were 'shielded' and NHS and key workers within their community. Of these respondents, 27% planned to continue with this service, with a further 37% hoping to continue with the service if demand was still apparent.

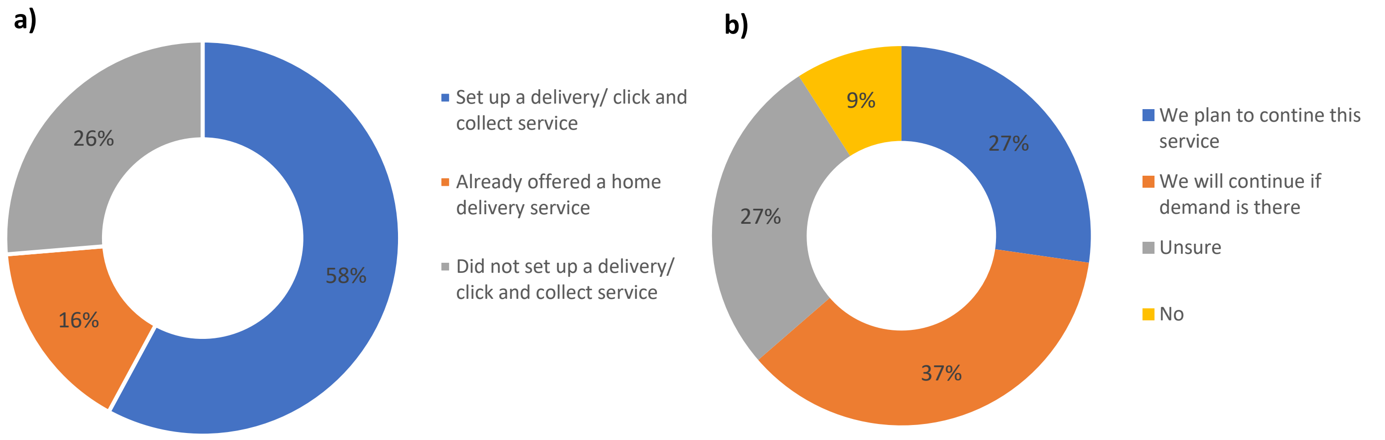

Figure 3.10.

a) The proportion of respondents who set up a home delivery/ click and collect service in response to the COVID-19 pandemic.
b) Of those that set up a home delivery/ click and collect service in response to the COVID-19 pandemic, the proportion of respondents who plan to continue with this service following the pandemic.

3.4 Discussion:

This survey validates the important role that farm shops in Cornwall and the Isles of Scilly have played in the recent COVID-19 pandemic; easing pressure on the larger retailers, offering a calm and safe shopping environment within their local communities, catering to customer requests and developing delivery and collection systems to support key workers and assist those who are most vulnerable. Given that 95% of respondents sourced their produce largely/ solely within Cornwall prior to the pandemic and less than half of these were required to extend the range from which they sourced their produce in the height of the pandemic, these outlets provided a reliable route to market for many farmers and independent producers who saw many of their usual supply chains disrupted.

Contrary to expectation the location of the farm shops appeared to have little effect on the answers of respondents; for example it could have been be presumed that the farm shops situated in West Cornwall may have faced additional difficulties in sourcing some products throughout the period of lockdown due to their geographic remoteness, however this was not found to be the case. In fact, the only distinct location trend was in relation to product expansion, in that all five of the respondents from East Cornwall reported increasing their product range greatly during the lockdown period, with four of these respondents stating that this was in response to requests from customers. A lesser location trend was in relation to concerns for the future, in that all three of the respondents from West Cornwall stated that retaining new customers was their only concern, relative to respondents from other regions who provided a range of concerns.

Among the most surprising findings was the lack of comparison between the prices in farm shops relative to those of local supermarkets. Over two thirds of respondents reported that they never compare their prices, largely due to the fact that their products are of higher quality or produced under different brands and are therefore not comparable.

However, this lack of comparable products/ product ranges may be off-putting to consumers, who, amid the new social distancing regulations have reportedly reverted to historic shopping habits of making fewer, larger shops per week (BBC, 2020). Farm shops have begun responding to this trend by expanding their product range, with over 89% of survey participants reporting stocking additional items such as toilet paper, cleaning products, toiletries, tinned goods, additional fruit and vegetables, and dried goods such as pasta and flour, largely due to requests from customers. Going forward, it may be that farm shops are required to continue to stock these 'essential' items (many of which can be sourced from British or ethical suppliers) alongside the fresh produce, high end and artisanal products which are traditionally offered, in order to ensure customer satisfaction and retention. This approach has already been adopted by Trevaskis Farm Shop, which offers "everything you need for your weekly shop … under one roof … at competitive prices" (Trevaskis Farm, 2020). Despite the apparent customer demand for an increased product range, when faced with the additional pressure of implementing social distancing regulations many farm shops will be limited by storage capacity so may be restricted in the number of additional products they are able to stock, while some may be resistant to the idea of continuing to stock additional items in fear of 'diluting' their farm shop ethos and being at risk of becoming a convenience store. While extending the product range will not have an impact on business rates (provided that the retail area is not expanded), farm shops which did not previously require planning permission (on account of solely selling unprocessed goods that are produced on the farm) will be required to obtain planning permission if they increase their product range to include a significant amount of produce sourced from elsewhere (DEFRA, 2002).

The robustness of the short, local supply chains traditionally employed by farm shops was apparent when respondents were asked if they had difficulty in sourcing products during the pandemic. Only two respondents had difficulty in sourcing locally grown fruit and vegetables, one respondent had difficulty in sourcing meat and one respondent had difficulty in sourcing cheese. In contrast supermarkets within Cornwall experienced widespread difficulties in stocking milk, butter and cream as a result of increased demand, lengthy supply chains and little capacity for chilled storage; despite widespread availability of these products via local producers (P Aubrey-Fletcher, 2020, personal communication, 08 July).

The majority of farm shops saw an increase in sales within the lockdown period, facilitated by online sales and delivery or collection services, the majority of which were set up in response to the pandemic. Almost two thirds of respondents had solid or tentative plans to continue offering these new delivery or collection services, while
37% of respondents who did not currently sell their products online were considering developing this service in the future. Further, 42% of respondents had plans to expand their business in the near future, with an additional 16% considering plans to expand their business from 2021 onwards. Despite the apparent optimism and evolution within the farm shop sector, the primary concern of respondents was the challenge of retaining their new customer base of local residents. In order to support the development of the county's farm shops in the wake of the pandemic, we recommend that the CIoS LEP hosts a webinar or workshop providing tools which farm shops can employ to maximise customer retention. In addition to farm shops, the event could be made available to local producers to facilitate new partnerships and short supply chains and also to very small scale farm shops (garden-based growers who sell from the home/ roadside) who may have been excluded from the scope of this survey. The event could be run in collaboration with partners such as Growth Hub, the National Farmers Union, Tevi and the University of Exeter.

Potential topics include but are not limited to:

- <u>Shop layout</u> – An introduction to store layout and merchandising, including best practice techniques which can maximise spend per head and customer experience. For example, placing familiar, well known products or staple goods at the entrance of the store, at a cost that is comparable to that of a supermarket, to reassure the customer.

- <u>Technical advice</u> – Providing a brief overview on the resources that are available to farm shop owners to help them develop their existing web platforms (or create new ones) in order to process online sales (delivery or 'click and collect') in a way that works for their business. Maintaining an easy to use and appealing website is an effective way to attract new customers, while retaining customers who prefer this approach to shopping. This could include case studies of some of Cornwall and IOS's farm shops which have successfully transitioned to showcasing and selling their produce online.

- Social media – The pandemic has led to a widescale shift in communication methods, with online platforms now being more widely used than ever. While many farm shop owners may already be familiar with using social media for personal use or for their business; it could be helpful to provide a presentation/ workshop on how to plan a social media strategy. In learning how to effectively communicate the story behind their products, business owners will be able to emphasise the quality and environmental credentials of their products; helping customers to value these qualities and understand the pricing while potentially attracting new visitors to the store. This could include examples of some of the excellent social media strategies employed by the county's farm shops.

- Customer experience and product choices – Consumer habits have been altered in response to the COVID-19 pandemic, with research suggesting that price and availability are becoming increasingly prioritised (Stannard, 2020). The event could include a brief introduction to the customer hierarchy of needs, which collectively defines an exceptional experience for customers. Part of this concept is the 'ease of doing business', which links in with the topic of farm shops continuing to sell 'essential' items which they may not have traditionally stocked prior to the pandemic. This added convenience for customers is another reason to continue to shop at their local farm shop and may assist with customer retention.

Further investigations could focus on surveying consumers about their perceptions of and experiences with farm shops (both before and during the COVID-19 pandemic) to gauge an insight into their preferences regarding product ranges and collection or delivery services. There is also greater potential for cross-collaboration between farm shops and other sectors, for example the holiday rental sector. There have been some developments in this area, with Little Molvenny (Porthcurno) offering a discount voucher to guests for deliveries of food purchased through the Cornish Food Box Company, and The Park Cornwall (Mawgan Porth) and Roundhouse Barn Holidays (St Just) offering comprehensive details of a wide range of local farm shops on their websites (Little Molvenny, 2020; The Park Cornwall, 2020; Roundhouse Barn Holidays, 2020). Further developments to increase uptake could include emailing guests a month in advance with a promotional discount if food boxes, themed hampers and luxury local items (e.g. gin) are ordered via a partnered farm shop.

3.5 Conclusion:

This survey validates the important role that farm shops in Cornwall and the Isles of Scilly have played in the recent COVID-19 pandemic; offering a calm and safe shopping environment within their local communities, catering to customer requests and developing delivery and collection systems to support key workers and assist those who are most vulnerable. With the majority of farm shops experiencing an increase in sales and new customers, these stores helped to ease the pressure on the larger retailers, while contributing to the UK's food security by maintaining a reliable route to market for farmers and independent producers who saw many of their usual supply chains disrupted. The close relationship between farm shops and local communities was demonstrated in the substantial increase in product ranges in the majority of stores, in order to cater to customer requests. The majority of farm shop owners were optimistic about potentially developing their business in the near future, however a prominent concern for many was the ability to retain their newfound local customers. In order to support the development of the county's farm shops and reinforce local supply chains in the wake of the pandemic, we recommend that the CIoS LEP hosts a webinar or workshop providing tools which farm shops can employ to maximise customer retention.

4.0 Fishing sector survey:

4.1 Introduction:

There are approximately 12,000 fishermen active in the UK, of whom 20% work part time; collectively they land around 698,000 tonnes of marine fish within the UK and abroad per year, worth a value of £989 million. In 2018, the Cornish administration port of Newlyn recorded the largest quanity of landings in England, overtaking Brixham in Devon with a total catch of 14,100 thousand tonnes among 557 vessels (annual catch statistics are assiged to the port of administration of a vessel, typically the responsible office in closest proximity to a vessel's operational base - Newlyn is Cornwall's only administration port) (Marine Management Organisation, 2019). At 557 vessels, Newlyn has the largest number of registered vessels of any administration port in the UK, with 86% of these vessels being under 10 metres in length. In many Cornish coastal communities the fishing industry is responsible for much of the econmic activity and employment that takes place, both through the direct employement of 841 fishers landing £29.8 million of demersal fish, pelagic fish and shellfish and indirectly through the associated seafood processing industry and restaurant sector (Table 4.1; Cornwall Food and Drink, 2014; Marine Management Organisation, 2019). Despite the productivity of the UK fishing industry, over 64% of the seafood caught (weight = 448,000 tonnes) by the UK fleet is exported abroad, with the UK in turn importing an almost equivalent weight (674,000 tonnes) to that of its total annual catch (Marine Management Organisation, 2019). Within Cornwall, work is ongoing to promote greater local consumption of Cornish-landed fish (Fishing News, 2019). In addition to marine protein being a valuable source of nutrition, increasing local consumption of Cornish-landed fish is an effective way to minimise food miles, contributing towards meeting the Carbon Neutral Cornwall challenge set by Cornwall Council. Further, selling more Cornish-landed fish locally may help to diversify markets for fishers, particularly if sales to customers are direct, providing an alternate route to market to the traditional fish merchants and potentially increased profit margins.

The COVID-19 pandemic has had a significant impact on Cornwall's fishing industry, with the closure of restaurants and fish counters across Europe leading to rapid market collapse (Food Manufacture, 2020). Faced with the breakdown of local and export markets and with no outlet through which to sell their catch, many of Cornwall's fishers were forced to seek new routes to market, including turning to social media to sell their catch directly to their local communities (Cornwall Wildlife Trust, 2020). We conducted a survey with Cornwall's fishing community, to find out more about these new routes to market and the ways in which fishers and their livelihood had been affected by the COVID-19 pandemic. This work will be used by the Cornwall and Isles of Scilly Local Enterprise Partnership (CIoS LEP) to see how they can support the needs of the sector going forwards.

Table 4.1. Quantity and value of fish landed at Newlyn during 2018 (Marine Management Organisation, 2019).

Catch type	Quantity ('000 tonnes)	Value (£ million)
Demersal	6.2	19
Pelagic	5.5	2.2
Shellfish	2.4	8.5
Total	**14.1**	**29.8**

4.2 Methodology:

Neither the Cornish Fish Producers' Organisation (CFPO), the Cornwall Inshore Fisheries and Conservation Authority or the Isles of Scilly Inshore Fisheries and Conservation Authority (IFCA) (all of whom work closely with local fishers) were able to distribute our survey to their contacts. Therefore, we directly contacted the 21 fishers whose details were available on the Cornwall Good Seafood Guide website, to invite them to participate in our online survey (see Appendix 1: Figure 4 for the list of survey questions; Cornwall Good Seafood Guide, 2020).

4.3 Results:

We contacted 21 fishers and received a response from eight of them, resulting in a participation rate of 38%. The full survey results are available to view on a slideshow which can be accessed by clicking this link, as this interactive format enables the viewer to hover the mouse over each response to view the detailed answer, therefore providing greater depth of information than can be achieved by graphical representation alone. However, for the purposes of this report key results will be represented graphically.

Respondents were asked to provide details on the size and type of vessel that they work on. All of the fishers told us that they work on boats that are under 15m in length, and are therefore classed by the government as small vessels (Table 4.2). Of the respondents who specified the length of their vessel (n=7), 43% were between 5m and 10m in length and 57% were between 10m and 15m in length. Respondents were asked whether they are the owner or operator of the vessel or if they are employed or self-employed as crew. Seven of the respondents told us that they were the owner of the vessel, with one stating that they were the self-employed skipper of the vessel but not clarifying whether they owned the vessel.

Respondents were also asked what species they target. Crustaceans (lobster, brown crab, spider crab) were the most frequently targeted group (40% of responses), followed by demersal fish (including flat fish and ling; 27% of responses), pelagic fish (pollack, mackerel, cod and bass; 18% of responses) and bivalves (mussels, oysters and scallops; 18% of responses) (Table 4.2; Figure 4.1).

Table 4.2. The vessel length and type that the respondents use for their fishing activity and the target species.

Vessel length	Vessel type	Target species	Classification of species
10.6m	Not specified	Lobster, brown crab, spider crab	Crustaceans
9.8m	Cygnus	Lobster, crab	Crustaceans
11.6m	Inshore trawler	Mixed demersal fish	Demersal fish
8.0m	Catamaran	Lobster, crab, pollack, mackerel, cod, occasionally ling	Crustaceans, pelagic fish, demersal fish
14.0m	Scalloper	Scallops, flat fish	Bivalves, demersal fish
Not specified	Mussel & oyster barges	Mussels, oysters	Bivalves
15.0m	Vivier crabber	Lobster, brown crab	Crustaceans
5.6m	Powercat 525	Bass, pollock, mackerel	Pelagic fish

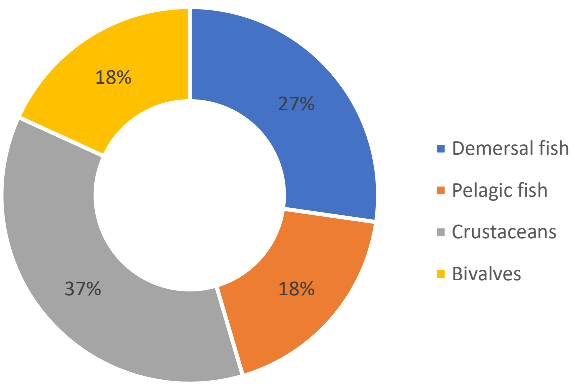

Figure 4.1. The species targeted by the respondents, according to frequency of response.

Respondents were asked where they usually sell their catch. Two of the respondents told us that they sell their catch at multiple outlets, while one did not specify how they sold his catch. The most popular routes to market were local fish merchants and wholesalers (accounting for 40% of responses each), with only one respondent (10% of responses) using a local market in Newlyn to sell his catch (Figure 4.2). The fishers were also asked if they knew the end destination of their catch. The most frequent response was that their catch was exported to Europe (36% of responses) to be sold in restaurants and major supermarkets or that it was sold within the UK (45% of responses) to be used in the restaurant trade, with local restaurants accounting for half of these responses. Two respondents did not know the end destination of their catch (18% of responses).

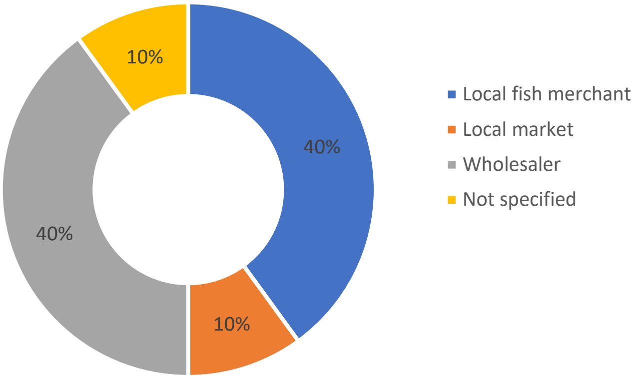

Figure 4.2. The routes to market used by respondents prior to the COVID-19 pandemic, according to frequency of response.

Respondents were asked how the COVID-19 pandemic had affected their fishing activity. Seven of the eight respondents told us that their fishing activity had been reduced, with only one respondent telling us that it had remained the same. Of the fishers who had reduced their fishing activity, we asked how they had implemented this. The majority of fishers achieved this by reducing the frequency of their trips (50% of responses), followed by reducing the duration of their trips (37% of responses). One fisher told us that he changed the location of their fishing effort, moving to a site that was closer to port to reduce fuel usage (13% of responses) (Figure 4.3). We then asked these respondents what their reasons were for reducing their fishing activity. All seven fishers told us that there had been less demand for fish during this period primarily due to the closure of fish merchants and that fish prices had dropped considerably, making it less economical to continue fishing as usual.

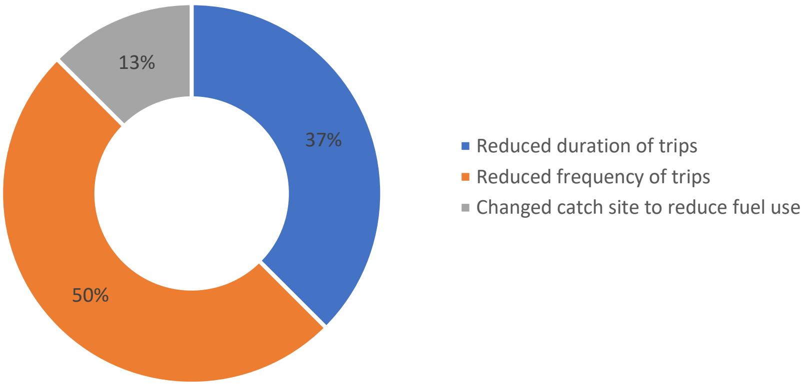

Figure 4.3. The ways in which the respondents reduced their time at sea, as a result of the COVID-19 pandemic.

All respondents were asked whether they had been required to adopt new routes to market as a result of the disruption caused by the COVID-19 pandemic. Only one of the seven respondents who targets brown crab and lobster told us that they had not adopted new routes to market, although they had reduced their fishing activity for 4-6 weeks. Seven of the eight respondents (86%) told us that they had been required to adopt new routes to market (Figure 4.4). Of these, four of the fishers told us that they had begun selling their catch locally including at markets and directly to customers. Four of the fishers told us that they had begun using online platforms to sell their catch, including social media platforms such as Facebook marketplace and Facebook group pages, with one respondent telling us that this method of sale (including the offer of free delivery to residents in the local area) was very time consuming (requiring 2.5-3 hours per night) and that their family were required to assist them. One fisher told us that they had begun selling their catch to a wholesaler but at a reduced price. We asked these seven fishers whether they planned to maintain these new methods of sale following the pandemic. Only two of them replied with an affirmative answer and five did not specify. One of the fishers who hopes to continue selling locally told us that the local community had enjoyed the freshness of eating fish "straight out of the bay" and that it bought cheer to these residents in a very restricted environment.

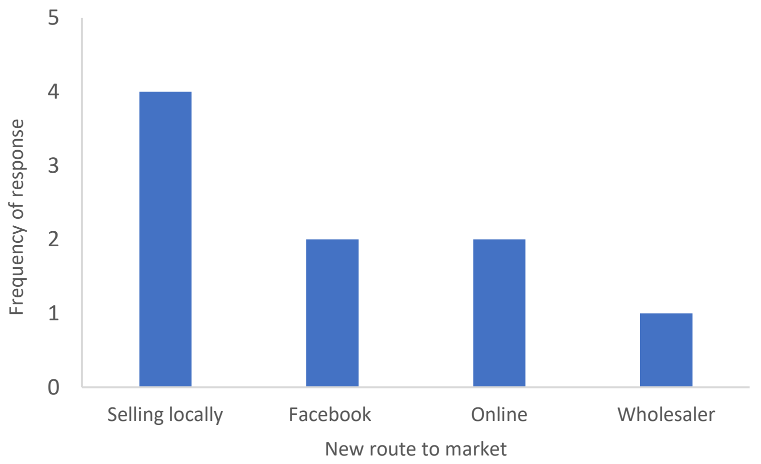

Figure 4.4. The new routes to market adopted by fishers in response to the COVID-19 pandemic.

Respondents were asked whether there were any benefits or disadvantages to the new routes to market which they had adopted during the pandemic. Of the seven who had adopted new routes to market, one told us that they hadn't experienced any benefits or disadvantages. However, three of the seven fishers (43%) found the new routes to market to have disadvantages but no benefits, compared to their previous route to market. Two fishers told us that there were both benefits and disadvantages associated with their new routes to market and one fisher told us that there were only benefits (Figure 4.5). The most commonly reported disadvantage was that the fishers were required to work longer hours, as a result of administration tasks associated with matching sellers with their catch, in addition to the fact that they were required to deliver the catch immediately after finishing working at sea (which could be problematic without a cooled vehicle) and were required to familiarise themselves with the legislation surrounding fish delivery and apply for certificates for key workers. Further, despite receiving many customer requests for cooked lobster and crab (as people were reluctant to kill it themselves) fishers were not able to access the premises and food safety training required to legally cook and sell crustaceans due to the closure of many government agencies.

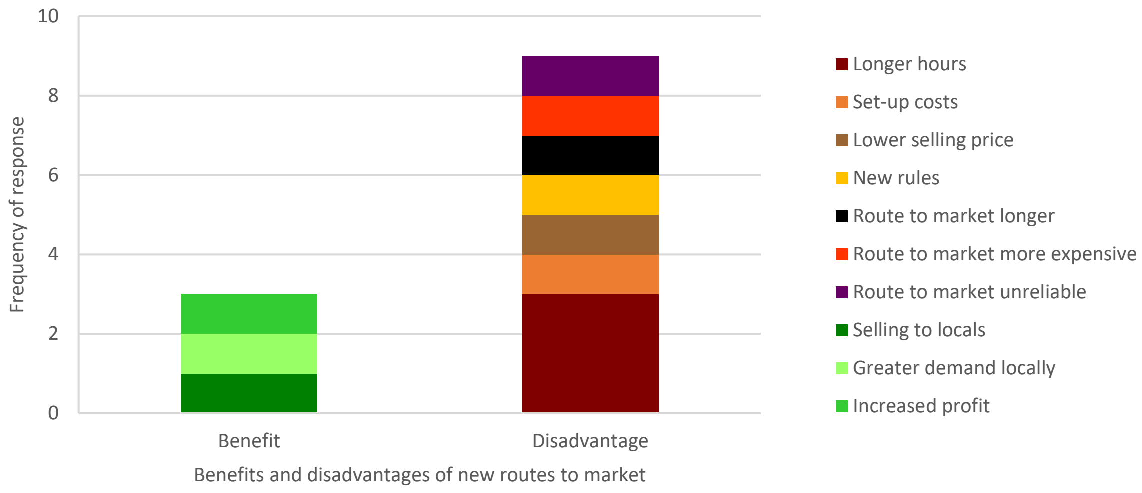

Figure 4.5. The benefits and disadvantages of the new routes to market adopted by fishers in response to the COVID-19 pandemic.

Respondents were asked whether they had faced any other issues as a result of the COVID-19 pandemic, aside from the disruption of their usual routes to market. Half of the fishers (n=4) told us that they had not experienced any additional issues. Among the four fishers who had experienced additional issues, financial concerns was the most commonly reported problem (37% of responses), followed by difficulty in obtaining boat parts (25% of responses) and to a lesser extent isolation and a lack of time to purchase food and medicines around their fishing schedule (Figure 4.6)

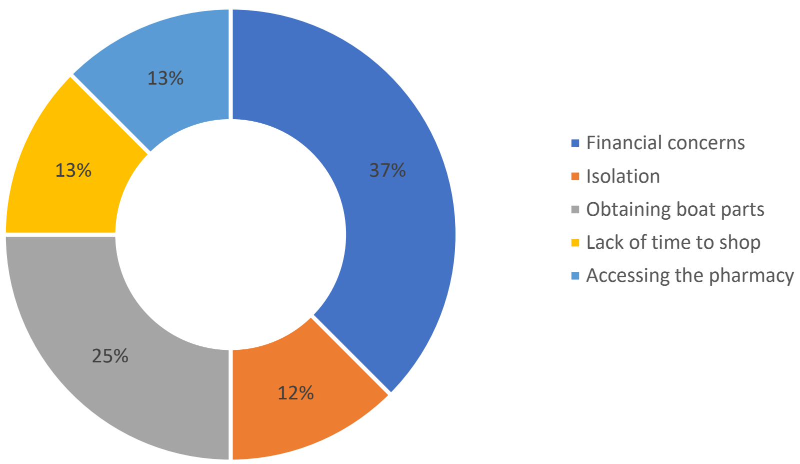

Figure 4.6. The issues faced by fishers as a result of the COVID-19 pandemic, aside from the disruption of their usual routes to market.

Respondents were asked what they perceive to be their greatest challenge following the pandemic, in terms of their fishing career. One quarter of respondents (n=2) told us that they did not foresee any challenges (Figure 4.7). The most widely reported concern, held by 62% of respondents (n=5) was the length of time that it might take for the markets and prices to return to pre-pandemic levels. One respondent reported that the currently reduced markets have recently been flooded by fish caught by much larger vessels, making it more difficult to sell their catch.

13% of respondents (n=1) were concerned about being able to sell their catch to their local community, as they were being out-competed by fishers from other areas who have more resources (e.g. refrigerated vans) and a wider range of species for sale. This respondent felt that there was a lack of avenues through which they could promote the sustainability of their catch.

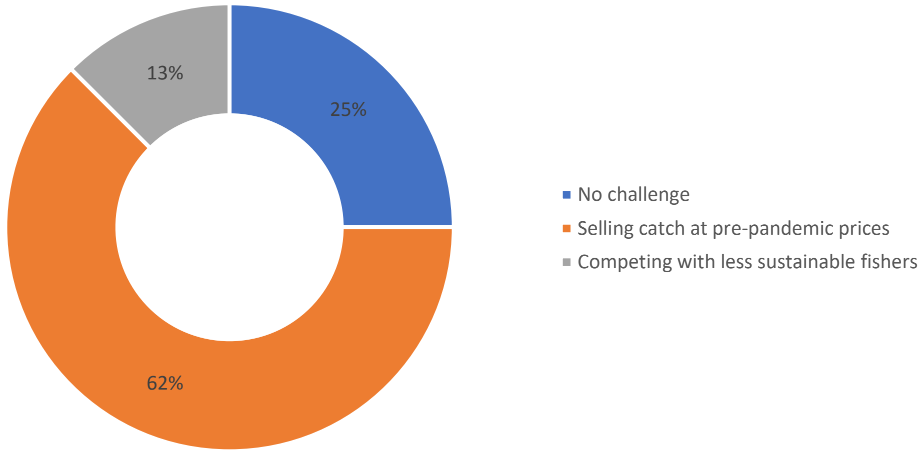

Figure 4.7. The greatest challenge perceived by fishers following the COVID-19 pandemic, in terms of their fishing career.

Respondents were asked their age and whether they have any plans to retire. The ages of respondents ranged from 30-67 with an average age of 50 (Figure 4.8). Of the 11 fishers (one fisher listed the ages of all four of his crew members), only one of them had plans to retire in the next two years and the remaining ten didn't have plans to retire for more than five years.

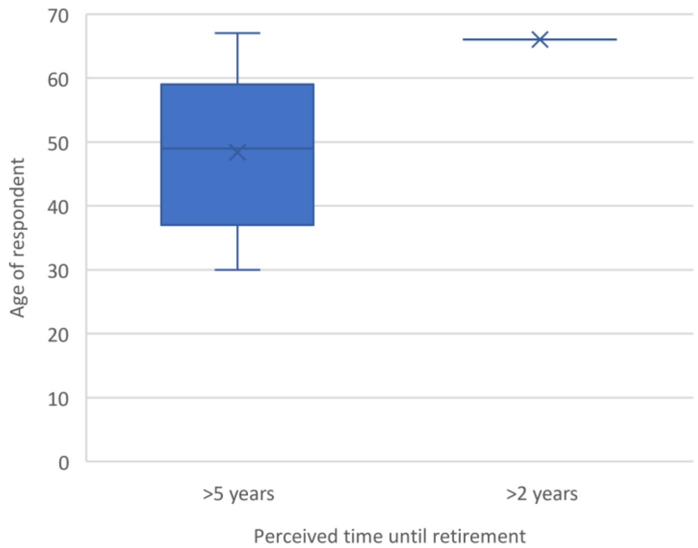

Figure 4.8. The age of fishers, according to perceived retirement plans.

Respondents were asked whether they would like to see more of their catch sold to businesses within Cornwall or made available to local residents (if it isn't already). 75% of the fishers (n=6) told us that they would like to see more of their catch available locally, with one fisher suggesting that starting local fish markets would provide an effective outlet via which fishers could sell their catch, in addition to the currently available routes to market (Figure 4.9). One respondent who catches mixed demersal fish told us that more of their catch is now available locally, as a result of their participation in more home-markets and selling their catch online in response to the COVID-19 pandemic.

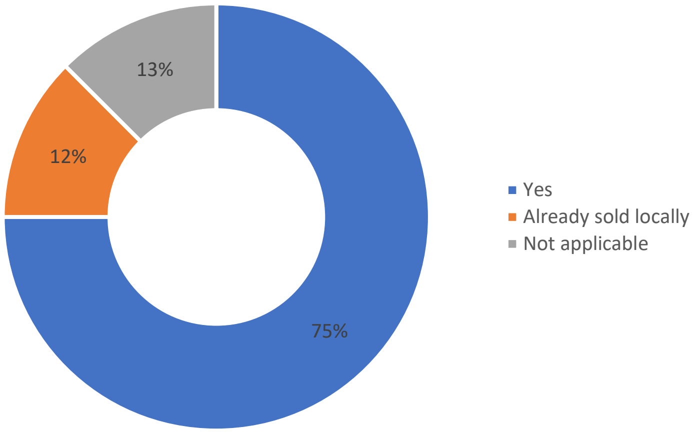

Figure 4.9. Whether respondents would like to see more of their catch sold to businesses within Cornwall or made available to local residents, if it isn't already.

Finally, respondents were asked whether they think there should be more initiatives to encourage school children to eat fish and learn about the Cornish fishing industry. All eight respondents told us that they would like to see greater education regarding the local fishing industry and an increase in children eating seafood. One respondent praised the Newlyn fish festival for raising awareness of Cornwall's fishing industry and engaging the public but felt that improvements could be made to increase the involvement of local fishers and encourage the public to buy their catch. They also told us that it would be good for fishers to be able to access funding to enable them to run educational trips for school pupils about fishing and sustainability from their charterboats/ vessels, subject to safety requirements being met. Another respondent told us that they felt there was far too much negativity associated with the industry, particularly as marine protein was "one of the healthiest foods on earth".

4.4 Discussion:

Despite the small sample size (n=8), the survey response rate was 38%. This participation rate is the highest we received from any survey, which could indicate a greater desire for fishers to voice their experiences of the pandemic and their concerns for the future, relative to the other sectors we surveyed. However, this elevated participation rate could also be attributed to the method of communication; due to the CFPO and IFCA being unable to distribute the survey to their contacts we directly contacted the 21 fishers whose details were available on the Cornwall Good Seafood Guide website, to invite them to participate in our online survey (Cornwall Good Seafood Guide, 2020). The most common method of contact was via the Facebook Messenger App, through which we rapidly received a confirmation from half of the respondents (n=4) to inform us that they would complete the survey. This could indicate that direct contact to mobile devices is an effective method by which to distribute surveys to maximise participation rates, however this approach would be less applicable within the other sectors we surveyed.

All of the respondents (of the seven who specified) told us that they owned the vessels that they worked on, all of which were less than 15m in length and are therefore considered to be 'small vessels' which are typically part of the inshore fleet (fishing up to 6 nautical miles from shore) and are constrained by local weather conditions. Despite these limitations, small vessels such as these form the majority of the fishing fleet at Newlyn, with 86% of registered vessels being under 10m in length and typically target non-quota species such as shellfish, returning to port daily to land their catch (MMO, 2019; Houses of Parliament, 2018). The fact that the survey respondents were all vessel owners (many of these boats will also employ crew) may be due to sampling bias, as the vessel owner details may be more commonly listed on the Cornwall Good Seafood Guide website as the contact through which fresh fish could be purchased by the public (Cornwall Good Seafood Guide, 2020). Alternatively, it may be that vessel owners, many of whom may employ family members as crew (25% of respondents mentioned this) are more invested and therefore more inclined to share their views on the effects of the pandemic on their livelihood. If more time were available and without the restrictions imposed by COVID-19, a more thorough and representative survey could have been conducted by directly visiting ports around CIoS to conduct face-to-face surveys to obtain a greater and more diverse selection of respondents.

All of the survey respondents told us that they target more than one species, with half of respondents targeting crustacens, one quarter targeting bivalves and half targeting fish (both pelagic and demersal species). The fishing of many shellfish species including the brown crab, spider crab and lobster targeted by half of respondents is not controlled by quotas, with alternative methods in place to sustain stocks (including specified 'fishing seasons' for target species, minimum landing sizes and in the case of lobsters returning the egg carrying females (berried hens) to the sea and marking (v-notching) the tails of breeding females to prevent short-term recapture). In terms of the other species targeted by respondents the majority of small vessels (79%) do not hold their own fishing quota (a management tool which designates the total allowable catch of a vessel); rather, they fish from government quota pools which hold 2% of the UK quota (New Economics Foundation, 2019). In order to access the government quota pools the vessel owner is required to be a member of the CFPO who manages fishing opportunities on behalf of their members (CFPO.org.uk, 2020). This is consistent with the typical fishing behaviour of small vessels (<10m), which target a range of species and land their catch daily, frequently targeting non-quota species. The compostition of target species reported by survey respondents is consistent with the typical fishing behaviour of small vessels (<10m), which generally target a range of species (frequently non-quota species) enabling them to fish year-round.

Over one third (37%) of respondents reported experiencing financial concerns during the period of lockdown. All of the respondents who specified (n=7) told us that they were the vessel owner, therefore it may be conferred that they are self-employed. The self-employed income support scheme set up by the government in response to the COVID-19 pandemic did not provide renumeration until June 2020, ten weeks after the period of lockdown was implemented (GOV.UK, 2020a). Further, one respondent told us that they were not eligible for the Small Business Grant Funding and that the local Harbour Board had increased their rates this year adding to their financial concerns, although they did receive a delayed grant payment from the Marine Management Organisation (GOV.uk, 2020a; GOV.uk, 2020b). Given that the majority (87%) of respondents told us that they had reduced their fishing activity (achieved by shortening trip duration, fishing less frequently or in one case changing the site of fishing to minimise fuel usage) as a result of lack of demand resulting in subsequent market collapse, the majority of Cornwall's self-employed fishers may have been living on substantially reduced income for the period of lockdown, until markets began to recover and they could resume 'normal' fishing activity. Respondents told us that in the cases when they were able to sell their catch to local customers, they were required to reduce their prices as many local customers were operating on a tight budget as a consequence of the pandemic. Following the period of lockdown, the primary concern (75%) among respondents was the ability to sell their catch at pre-pandemic prices, once the markets resumed.

Prior to the pandemic, the majority of respondents sold their catch via wholesalers (40%) and local fish merchants (40%), with only a small proportion selling their catch at a local market (10%). By contrast, 88% of respondents had adopted new routes to market in response to the pandemic, with half of these fishers now selling their catch locally and half using online platforms to generate sales, although it was not specified whether these sales were local. It is worth noting that the proportion of Cornwall's fishers who have adopted new routes to market may be lower in reality than the proportion suggested via this survey, due to the fact that the respondents were sourced from a database of fishers who were willing to sell their catch directly to the public, resulting in potential sampling bias. 43% of respondents told us that there were benefits associated with their new routes to market, including slightly increased profit margins and greater local demand. By contrast, 71% of respondents reported disadvantages associated with their new routes to market, primarily increased work hours due to administration associated with selling (including advertising, communicating with customers and delivering their catch), in addition to expenses incurred through set-up costs and reduced reliability of new sales channels. One respondent told us that their new route to market via online sales "took longer, was unreliable and more expensive", which could indicate that they were using a courier to transport their mussels and oysters further afield. Despite only two respondents confirming that they intended to continue selling via new routes to market, three quarters of all respondents told us that they would like to see a greater proportion of their catch sold locally in future.

When asked whether they knew the end destination of their catch, only one quarter of respondents told us that their catch (mussels, oysters, lobster and crab) was sold locally prior to the pandemic, with the remainder of respondents reporting that their catch was exported to elsewhere in the UK or to Europe. Seafood is partly responsible for Cornwall's reputation for outstanding food and drink and is reportedly the food product that more people associate with Cornwall than any other (Cornwall Food and Drink, 2014). However, outside of the restaurant trade the availability of fresh, locally caught seafood for purchase by the general public is less widely available, with the majority of supermarkets selling fish that is largely caught from outside of the county. Increasing the local consumption of Cornish seafood would shorten supply chains within the local food sector, helping Cornwall move towards a carbon neutral economy. Further, fish and shellfish are good sources of protein, vitamins and minerals, with oily fish in particular containing fatty acids and vitamin D which are associated with promoting healthy heart and brain function and healthy bones (World Cancer Research Fund, 2017). Given that less than one third of the UK's population consumes the recommended amount of two portions of fish per week, increasing the availability and promotion of locally caught oily fish such as mackerel and sardines within Cornwall could help improve the health of residents while creating shorter, more robust supply chains (World Cancer Research Fund, 2017). Survey respondents showed unanimous support for greater education regarding the local fishing industry and an increase in children eating seafood, with one respondent commenting that there is far too much negativity associated with the fishing industry at present. Conservation charities such as the National Lobster Hatchery and Cornwall Wildlife Trust and local marine conservation groups have undertaken educational activities with local school groups in the past, with respect to Cornwall's fishing industry and sustainability, including delivering outreach and creating educational resources. Educational trips could also be facilitated by the fishing industry themselves, with one respondent expressing an interest in utilising their charter boat for this purpose. However, in order for widespread education leading to improvements in sustainability awareness and changes to eating habits to be achieved, a sustained, coordinated effort is needed which would likely require the input of funding.

Despite the fact that three quarters of respondents communicated a desire to see a greater proportion of their catch sold locally in future, their ability to do this is limited by the lack of local outlets through which they can sell directly to customers, in addition to potential ramifications from fish merchants in response to selling their catch through additional avenues (communicated as an issue by one respondent). The ability of fishers to sell their catch directly from the boat to the public was reportedly hindered for those who target crab and lobster, due to the reluctance of the public to kill and cook the animals at home; although one respondent was willing to do this on behalf of their customers they lacked the certification required to do this legally. The creation of farmer-style markets for fish throughout Cornwall would provide the opportunity for fishers to sell their catch (including pre-cooked crustaceans) directly to local communities and tourists, in addition to their traditional routes to market. This method of selling would also enable the fishers to increase public awareness relating to the sustainability of their catch, particularly as many inshore vessels employ more sustainable methods of fishing, relative to larger offshore vessels (British Sea Fishing, 2018). One respondent suggested that a weekly fish market could be organised at the 'Tram Tracks' in Newquay but added that this would require the backing of Cornwall Council and may need financial support. Newlyn Fish Market currently opens daily offering access to a selection of 40 marine species, however the market opens at 4am and selling is conducted via auction, making this an unsuitable venue for fish purchasing by the public. The CIoS LEP may be able to assist in gauging regional support for local fish markets and if substantial support is evident they may be able to assist with the application for Market Rights Licences.

Further developments to assist fishers in selling their catch directly to the public could include the development of a smart phone app, which informs potential purchasers which species are available on a given day and what time and location they should be collected from. This technology could reduce the problems reported by respondents in handling numerous individual phone calls and messages whilst working at sea, while providing a shortened supply chain and increased profit margins to Cornwall's inshore fishing community. The organisation Fresh Range provides a matching service in which producers are matched with customers to provide fresh produce, including seafood sourced from the Southwest (Fresh Range, 2020). However, at present the only Cornish seafood available on the Fresh Range website is sold through the wholesaler 'Sole of Discretion'.

4.5 Conclusion:

Despite the small sample size, the high participation rate and detailed responses obtained in this survey suggest that Cornwall's inshore fishers are keen to engage with the CIoS LEP to build upon the new routes to market that they developed as a result of the COVID-19 pandemic to work towards an economy in which a greater proportion of their catch is sold locally to the general public. In addition to fish and shellfish being a valuable source of nutrition, increasing local consumption of Cornish-landed fish is an effective way to minimise food miles and shorten supply chains within the local food sector, helping Cornwall move towards a carbon neutral economy. Establishing reliable avenues through which fishers can sell their catch locally (while requiring minimal additional administration input from fishers) will help to provide financial resilience to the inshore fishing community, which is particularly important given the current uncertainty surrounding exports as a result of Brexit trade agreements. The creation of farmer-style markets for fish throughout Cornwall would provide the opportunity for fishers to sell their catch directly to local communities and tourists, while enabling the fishers to increase public awareness relating to the sustainability of their catch. The CIoS LEP may be able to assist in gauging regional support for local fish markets and if substantial support is evident they may be able to assist with the application for Market Rights Licences.

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Appendix 1:

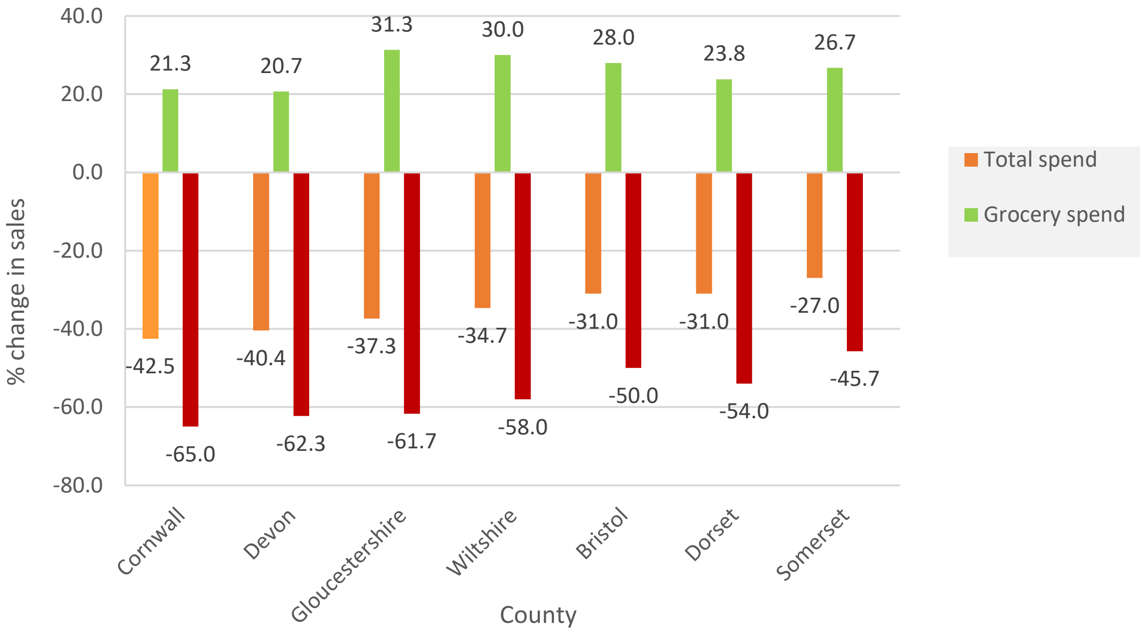

Figure 1. Average percentage change in sales across counties of the South West in week ending 27th April 2020, relative to the same week last year.

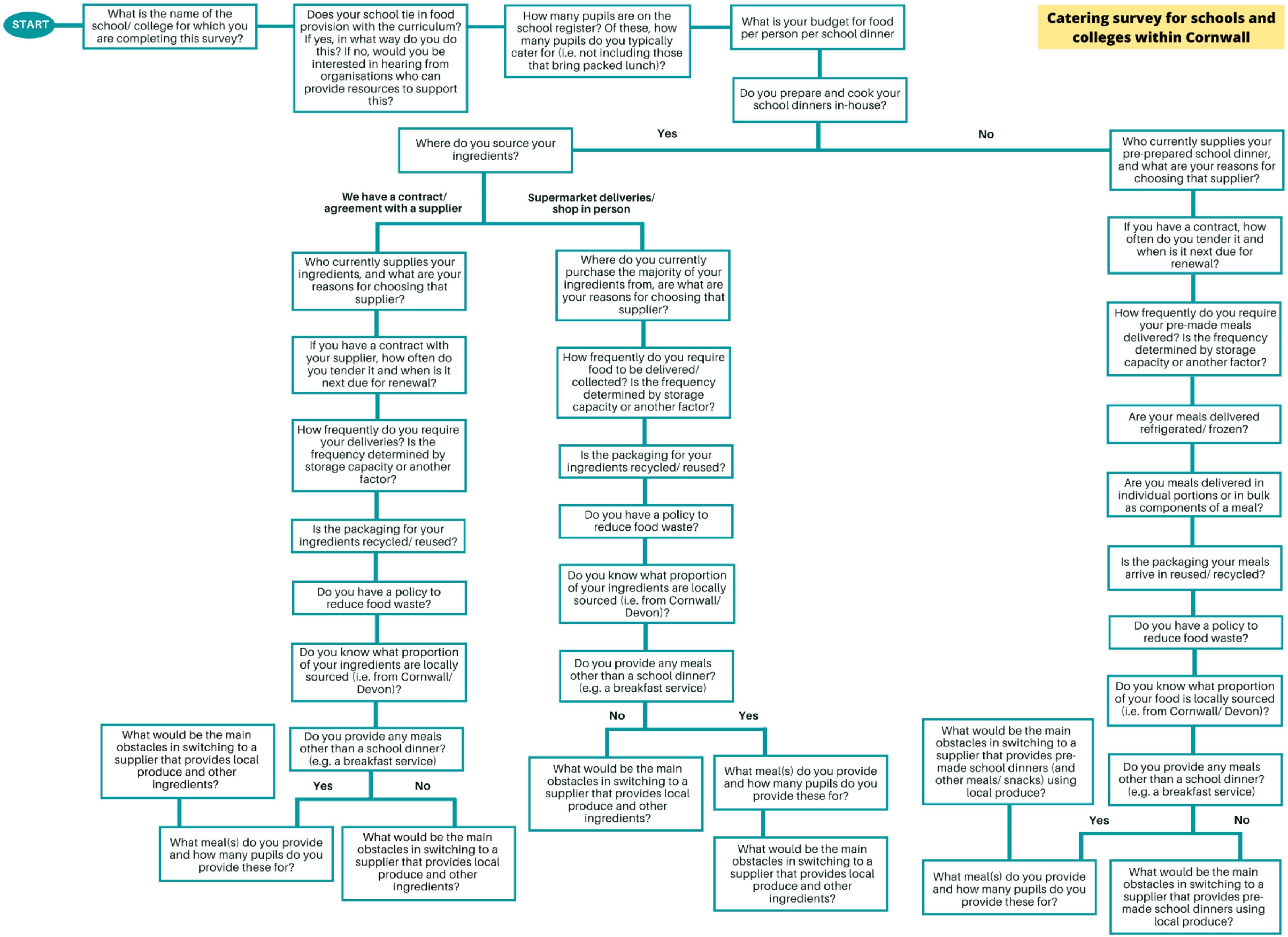

Figure 2. Survey questions for the education sector catering survey.

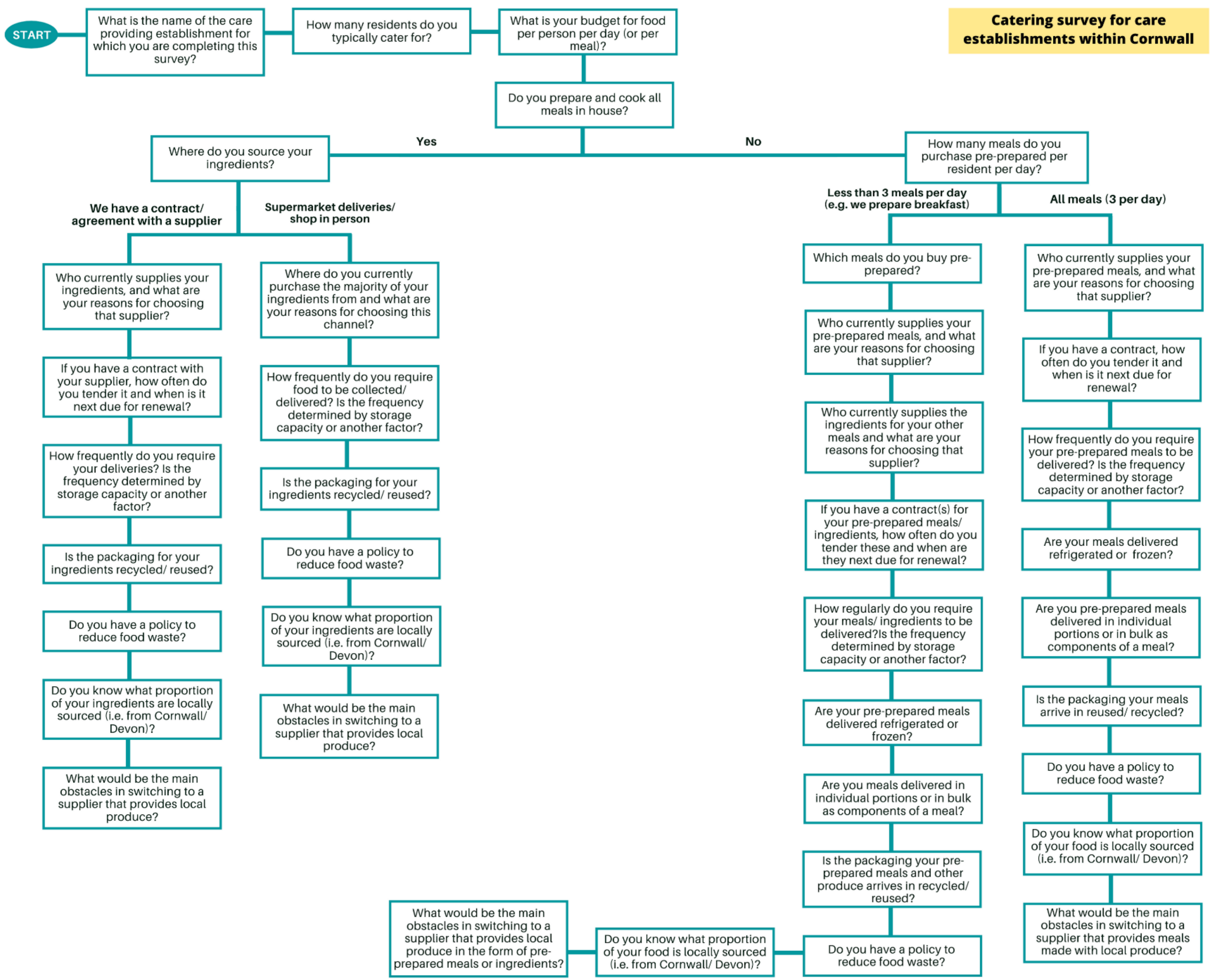

Figure 3. Survey questions for the care sector catering survey.

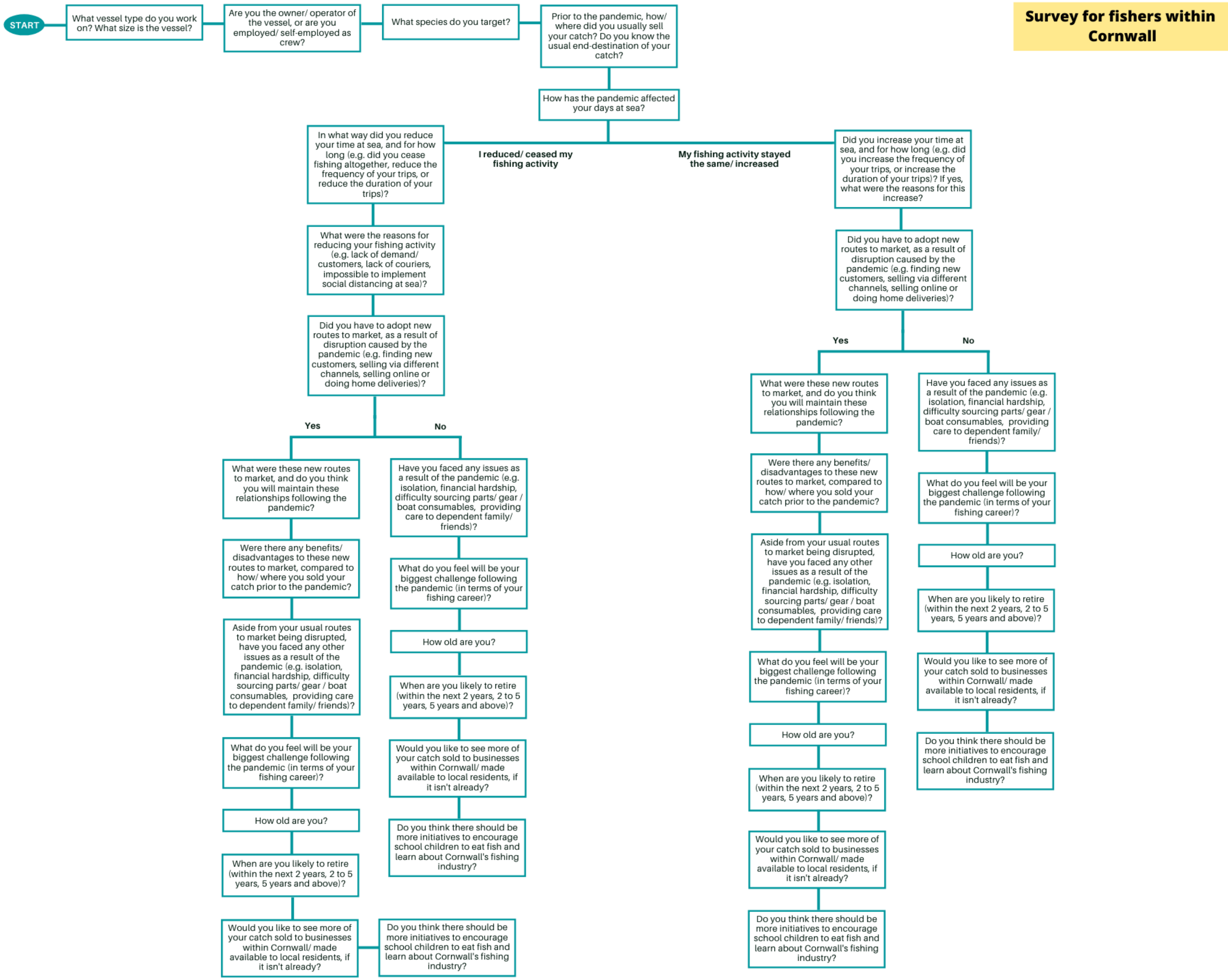

Figure 4. Survey questions for the fishing sector survey.

Table 1. Calculations to estimate annual education sector spend on school dinners within in CIoS. Based on 195 days of serving food the total annual spend is estimated to be £1,060,766.

	Primary schools						Secondary schools					
School type	Number of schools	Number of participants	Av. number of students	Av. budget per meal (£)	Proportion who have school dinners	Budget per day (£)	Number of schools	Number of participants	Av. number of students	Av. budget per meal (£)	Proportion who have school dinners	Budget per day (£)
Academy	173	17	194	1.73	0.59	197.23	13	1	650	2.3	0.44	651.89
Independent	2	0	300	0.85	0.59	149.55	0	0				
Maintained	60	12	203	2.06	0.59	245.61	4	1	150	2.2	0.44	143.90
Special	0	0					0	0				
NA	NA	NA					NA	NA				
Total budget per day (£)						592.39						795.78

	Colleges						Primary-secondary schools					
School type	Number of colleges	Number of participants	Av. number of students	Av. budget per meal (£)	Proportion who have school dinners	Budget per day (£)	Number of schools	Number of participants	Av. number of students	Av. budget per meal (£)	Proportion who have school dinners	Budget per day (£)
Academy	0	0					1	0	154	1.9	0.44	127.59
Independent	0	0					3	0	71.6	1.9	0.44	59.32
Maintained	0	0					0	0				
Special	0	0					3	1	9	3.5	0.44	13.74
NA	3	1	1089	2.25	0.44	1068.42	NA	NA				
Total budget per day (£)						1068.42						200.64

	Secondary-college						Primary-secondary-college					
School type	Number of schools	Number of participants	Av. number of students	Av. budget per meal (£)	Proportion who have school dinners	Budget per day (£)	Number of schools	Number of participants	Av. number of students	Av. budget per meal (£)	Proportion who have school dinners	Budget per day (£)
Academy	11	3	940	1.78	0.44	729.59	0	0				
Independent	1	0	1050	1.9	0.44	869.91	1	0	319	1.90	0.44	264.29
Maintained	3	0	1014	1.9	0.44	840.09	0	0				
Special	1	0	9	1.9	0.44	7.46	3	0	86	1.90	0.44	71.25
NA	NA	NA					NA	NA				
Total budget per day (£)						2447.05						335.54

Table 2. Calculations to estimate annual care sector spend on food provision within care homes in CIoS.

Figure	Value
Annual revenue generated by the UK care sector (11,300 homes).	£15.9 billion
Percentage of UK care homes located in Cornwall (235 homes).	2.08%
Annual revenue generated by the CIoS care sector (based on 235 of 11,300 homes nationwide = 0.0208 x £15.9 billion).	**£330,720,000**
Average budget per person per day on food provision within care homes in CIoS, obtained from survey data (excluding the £16 outlier).	£6.41
Estimated total spend per day on food provision within all care homes in CIoS, based on 5,000 care home residents, using the average budget of £6.41/person/day.	£32,050
Annual food spend in CIoS care sector.	**£11,698,250**

Table 3. Survey questions for the farm shop survey.

Question number	Question
1	Have your sales changed in the time period since lockdown was announced, relative to before the pandemic began? If yes, are the changes (e.g. increased sales) ongoing, or have they started to drop off?
2	Prior to Coronavirus, what was the region (by %) from which you generally sourced your produce? (i.e within 20 miles of the shop, within Cornwall, within the South West)?
3	In order to meet demand, did you extend the range from which you source your produce (in terms of distance)?
4	Were there any items in particular which you had difficulty in obtaining/ you were unable to source? Do you know why they were unavailable?
5	Did you increase your product range over the duration of the pandemic? What was the reason for this (e.g. in response to requests from customers, to substitute for regular stock you were unable to source, or taking on excess stock from suppliers)?
6	Do you sell online? a) If **yes**, is this through your own website or through a third party? Did you sell online before the pandemic, or did you start selling online in response to the pandemic? How have your online sales changed over the course of the pandemic? b) If **no**, do you have plans to sell online in the future?
7	Do you plan to take steps to expand your business (or have you already taken these steps) in the future, as a result of changes experienced during the pandemic? If yes, request a brief description of planned expansion.
8	What do you feel will be the greatest challenges for your business going forward, in the period following the pandemic?
9	Do you compare your prices with your local supermarket? Do your customers ever mention supermarket prices?
10	Have you set up any direct to home delivery services or click and collect as a result of Coronavirus? a) If **yes**, will you continue this service post-Coronavirus?

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