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Strengthening Local and Regional Food Systems in North Wales

Final Report

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Uchelgais Gogledd Cymru
Ambition North Wales



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Strengthening Local and Regional Food Systems in North Wales

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Glossary

Acronym/Key word	Definition
AMRC	Advanced Manufacturing Research Centre
BCUHB	Betsi Cadwaladr University Health Board
CEB	Centre for Environmental Biotechnology
CFIs	Community Food Initiatives
CPI	Consumer Price Index
CSA	Community Supported Agriculture
CWB	Community Wealth Building
DEFRA	Department for Environment, Food & Rural Affairs
DSP	Digital Signal Processing
DTC	Direct to Consumer
FE	Further Education
FFLSH	Food for Life Served Here
GVA	Gross Value Added
HE	Higher Education
IPCC	Intergovernmental Panel on Climate Change
LA	Local Authority
LSOA	Lower Super Output Area
MAT	Most Advantageous Tender
MEAT	Most Economically Advantageous Tender
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
RPB	Regional Partnership Boards
SEEC	Smart Energy Efficiency Centre
SFS	Sustainable Farming Scheme
SKU	Stock Keeping Units
SME	Small and Medium Sized Enterprises
TTN	Tourism Talent Network
UFSM	Universal Free School Meals
USDA	United States Department of Agriculture
WIMD	Wales Index of Multiple Deprivation

Executive Summary

Context

- i. The food system in North Wales is deeply interconnected with Wales, UK and international food networks, all under growing pressure in recent years. The COVID pandemic, labour shortages, climate change impacts, and price increases for fertiliser, oil and gas, have all contributed to a rise in food prices, with record numbers in Wales receiving food aid. While the UK Food Security Report 2024 concluded the UK food system was resilient and diverse enough to absorb shocks, it also highlighted significant emerging risks due to climate change, exploitation of natural resources, biodiversity loss, degradation of soil health, labour availability, reliance on energy imports and the impact of external shocks such as geopolitical events and global pandemics. At the same time, increasing consumption of ultra-processed food and decreasing consumption of vegetables and fruit are exacerbating strains on the health system. Yet the production profile in Wales does not align with regional consumption patterns with 86% of farmland used for grazing livestock - primarily lamb, beef and dairy products for export outside of Wales. Wales only currently produces 2% of the fruit and vegetables it consumes and eats only 5% of the meat it produces.¹
- ii. In response to these complex challenges, in February 2024, Ambition North Wales, supported by funding from the six North Wales Local Authorities, Betsi Cadwaladr University Health Board and the Welsh Government, commissioned Miller Research to undertake research into strengthening local and regional food systems in North Wales. The main objectives of the research are to assess the scale of supply and demand across the region and to identify key barriers and enablers to a stronger local food system. The research also aims to provide recommendations for shortening supply chains and developing a more sustainable food system for North Wales, highlighting opportunities for capital and revenue investment.

Method

- iii. This research was undertaken between February to March 2024 using the following methodology.
 - A desk-based review including a review of the corporate and wellbeing plans of the six local authorities in North Wales.
 - 18 in-depth semi-structured expert interviews with those working in different areas of the food system.
 - Five virtual workshops engaging different regional stakeholder groups (educational institutions, third sector and community groups, growers, public sector officers, farmers and primary producers)

¹ HCC (2021) Industry Statistics. Available at: [Industry Statistics | HCC / Meat Promotion Wales](#)

- Emerging findings workshops with the six North Wales Food Coordinators and the Ambition North Wales Agri-food and Tourism Programme Board.
- Expert technical reviews by regional specialists in food manufacturing, horticulture, agriculture, health, education and sustainability.

Production snapshot of the North Wales Food System

- iv. Agri-food is a priority sector for North Wales, with food and farming estimated to have employed around 20,900 people in North Wales in 2019 (approx. 6.6% of the regional workforce).²
- v. Nearly 90% of the land area of Wales is given over to farming, mostly used for rearing sheep and cattle. However, livestock farms in Wales (excluding dairy) have typically relied on subsidies to generate a profit (2021-22 was the first year where, on average, livestock grazing generated a profit through production alone).³
- vi. Pork production has been stable over the past few years around 24,000 pigs, with poultry numbers expanding significantly due to increasing demand for eggs.⁴
- vii. Greater arable and horticulture production than widely understood (23,017 ha in 2017, most recent data available) including wheat, barley, oats, potatoes, maize, beans and peas and oilseed rape, with around 20% output used for stockfeed.⁵
- viii. While the mussel industry was thriving in the Menai Straits, regulation changes since Brexit have meant annual production has dropped from around 8,000 tonnes to 400 tonnes, jeopardising the viability of the sector.⁶
- ix. Based on current population figures versus land dedicated to fruit and veg production it is calculated that in order to produce '5 a day' for the entire population of Wales, there needs to be a 29-fold increase in the amount of land growing fruit and veg⁷, from 931 hectares to 26,991 hectares⁸. Within North Wales, approximately 5,938 hectares would be needed to produce 5 a

² Hatch, Executive Overview AgriFood and Tourism Programme Available at: [Appendix 3b - Agri-Food Tourism - Executive Summary.pdf \(llyw.cymru\)](#)

³ Welsh Government (2023) Farm Incomes: April 2022 to March 2023. Available at: Welsh Government (2023) [Farm incomes: April 2022 to March 2023 | GOV.WALES](#)

⁴ Welsh Government (2023) Survey of Agriculture and Horticulture. Available at: [Survey of agriculture and horticulture: June 2023 | GOV.WALES](#)

⁵ Stats Wales (2019) Crops (Hectares) by Year. Available at: [Crops \(Hectares\) by Year \(gov.wales\)](#) Also see breakdown by county for 2017. Stats Wales (2019) Crops (Hectares) by Area. Available at: [Crops \(Hectares\) by Area \(gov.wales\)](#)

⁶ The Fish Site (2023) Menai Strait mussel farmers fear for their livelihoods. Available at: [Menai Strait mussel farmers fear for their livelihoods | The Fish Site](#)

⁷ Excluding potatoes and legumes.

⁸ Tyfu Cymru (2020) Horticulture Baseline Review. Available at: [hort-baseline-tc-final-1252020-read-only.pdf \(tyfucymru.co.uk\)](#)

day for the North Wales population⁹, or a 17-fold increase from the current 350 hectares noted in official data¹⁰

- x. A very large proportion of cereals and legumes currently produced in the UK are used for animal feed or are exported, limiting what is produced for human consumption and what is fed into the local food system.¹¹
- xi. The report explores potato and tomato supply and demand into the public sector and to the wider population to illustrate implications for regional land use, primary and secondary production, wholesale and retail.

Wider trends affecting the North Wales Food System

Risks	Opportunities
<p>Increasing food security concerns</p> <p>(a) At household level due to food price inflation and the cost-of-living crisis – increasing reliance on food parcels, even within working households</p> <p>(b) At the system level with increasing input costs, heatwaves, droughts, floods, and storms posing significant challenges to food production and distribution in the UK and imports</p> <p>Food related health issues, particularly obesity and malnutrition exacerbated by food poverty (reliance on ultra-processed food, lack of access to fruit and vegetables)</p> <p>Demographic and workforce changes include slowing population growth, an aging population, increasing housing demand, changing migration patterns, and evolving health profiles and needs.</p>	<p>Reshoring of global food supply chains to the UK and widening of UK supermarket supply chains increasing potential for job creation and private sector investment strengthening the economy</p> <p>Potential for a lower carbon food system through reducing import reliance, continuing to support grass-fed livestock and scaling horticulture</p> <p>Increasing demand for local and organic veg box schemes, and potential for introduction of novel crops as climate changes</p> <p>Improved health of children and the workforce through reduced consumption of ultra-processed foods</p> <p>Positive market positioning of Welsh products, underpinned by extensive policy, technical advice and funding support from Welsh Government.</p>

⁹ 22% of the overall population of Wales live in North Wales.

¹⁰ <https://www.gov.wales/sites/default/files/statistics-and-research/2021-09/agricultural-small-area-statistics-2002-2020-395.pdf>

¹¹ Strutt & Parker (2025) What about Wheat? Available at: [What about wheat? A look at our most important crop | Strutt & Parker \(struttandparker.com\)](https://www.struttandparker.com/what-about-wheat/)

North Wales Food System Enablers and Barriers

Regional enablers	Regional barriers
<ul style="list-style-type: none"> • World-leading experts across critical operational and technical areas within regional institutions (universities, further education, innovation / knowledge transfer centres) • Expertise in production and export of high quality, grass-fed livestock and dairy – more sustainable due to lower reliance on soy and grain imports. • History of arable and horticultural production in the region, with Community Supported Agriculture (CSA) steadily increasing. • Access to multiple funding and support services through Welsh Government initiatives, including to the highly successful Project Helix, the Food Innovation Centres, AMRC Cymru and other strategic agri-food initiatives. • Access to programmes such as Farming Connect and education facilities such as Coleg Cambria Llysfasi and Glynllifon Agricultural College are also a strong asset to the region • North Wales hosts sector-leading examples of sustainable livestock and horticulture production, providing demonstration opportunities and learning labs. • Food and drink conferences and 'Meet the Buyer events' such as 	<ul style="list-style-type: none"> • Lack of overarching vision surrounding the future of food in North Wales and a lack of senior-level buy-in • Lack of strategic and operational mechanisms hindering access to funding to support coordinated change across the region • Gap in regional and local plans around critical food-related issues such as sector energy requirements; land suitability for crops; production, transport and distribution. • Limited budgets within the public sector to drive forward change • Existing rules on public procurement within local authorities restrict opportunities to work with local suppliers • Multiple barriers to scaling horticultural production (see separate report) • Difficulties with recruitment and retention of younger generations into the food and farming sector • Gaps in training, skills and education • Limited production capacity (especially in edible horticulture) and lack of processing infrastructure in the North Wales supply chain

<p>'Blas Lleol' events have supported producers within the region</p> <ul style="list-style-type: none"> • Growth Deal funding and investment will bolster the food landscape through initiatives such as Glynllifon Rural Economy Hub, Tourism Talent Network and the Smart Local Energy Project • Quality of produce in North Wales is a major asset, with a highly-regarded reputation beyond the region. 	<ul style="list-style-type: none"> • Prominence of large-scale retailers (although indications of increasing interest in local supply chains) • Consumer habits or budgets leading them to prioritise low prices and convenience over sourcing or environmental considerations
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Systems mapping

- xii. As part of this research, a systems map was developed that captured the key characteristics and interactions of the North Wales food system. Specific levers of change were identified by the research as
- (i) Embedding local sourcing into procurement;
 - (ii) Strengthening of / establishing agri-food processing facilities;
 - (iii) Diversifying county farms into horticultural production for schools and hospitals; and
 - (iv) Using food tourism to expand markets for Welsh food into North West England markets.

Recommendations

- xiii. To address the challenges and opportunities identified, the following recommendations have been identified that capitalise on the levers of change - with responsibility for implementation including a range of stakeholders across the North Wales food system.
- xiv. Higher-level, strategic recommendations include the need for greater political leadership, strategic vision and buy-in surrounding what the future food system in North Wales should look like, perhaps driven forward through an agri-food regional steering group. Regional plans including the regional local area energy plan and regional and local area development plans should be reviewed to more robustly consider agriculture and food production. The region should also seek to strengthen partnership working as a means to foster collaboration, share best practice and better access relevant funding. There is a need to diversify food production methods and strengthen local supply chains. There is scope for the public sector to have a larger role in procuring locally sourced food, strengthening opportunities for local producers and farmers, and supporting job creation, while simultaneously improving the health and wellbeing of the North Wales population. There is also an urgent need to support young people to enter the sector through an enhanced skills, training and education offer.

- xv. Furthermore, the North Wales food systems map has resulted in a number of suggested projects to be implemented which, with further development, could help drive forward the ambition for a stronger food system in North Wales. Some of these are new ideas, other suggestions build on existing funding pools (e.g. from Welsh Government, Growth Deal) but have been set out to focus strategic attention. Ideas include:
- Creation of a centralised processing facility to meet public sector demand.
 - Piloting a coordinated growing scheme in the region (modelled along the lines of Our Food 1200) to increase horticulture production.
 - Diversification of county farms to boost scaling of horticultural production delivering economic, environmental and social benefits.
 - Creation of a 'Wales Week in Liverpool' to boost sales of North Wales food in the North West of England and build supply chain relationships.
 - Implementation of a Schools Food Programme to boost food literacy among school pupils and enhancing skills of school caterers.
 - Creation of a Technology-based Centre of Excellence for Sustainable Agriculture and Horticulture.
 - Refocusing of the Smart Local Energy Project to promote sustainability and the circular economy.
 - Additional funding for processing businesses to strengthen the processing capacity of the region.
 - Provide financing for food and drink manufacturing businesses in North Wales to bridge the gap between innovation and commercialisation.
 - Food Festival fund for deprived urban communities in North Wales

Conclusions

- xvi. The findings of this research have highlighted significant challenges facing North Wales in the pursuit of a stronger and more resilient food system. A whole system approach of close and ongoing collaboration could deliver a stronger local economy that provides food security, access to healthy and nutritious food, climate resilience and environmental stewardship.
- xvii. In the context of climate change, enhancing the diversity of food sources and prioritising locally-sourced options are critical in establishing resilience within the North Wales region. This approach also helps mitigate the external impacts of climate change on food production in highly affected regions, as well as addressing logistical hurdles and trade barriers.
- xviii. Strengthening local production will also deliver economic value for North Wales. As identified in the recommendations, long-term investment and financial support in the relevant infrastructure, training and skills will lead to business growth and job creation across the food and drink sector. Furthermore, efforts to grow the food tourism sector for both internal and external markets will also strengthen the economy of the region. Increased access to local nutritious produce, through public procurement or other channels, will improve the health and well-being of the North Wales population, ranging from school pupils to the local workforce. Finally, the

implementation of the identified actions will also result in social benefits, reinforcing ties with local communities and improving the population's connection with local food.

- xix. Moving forward, it is our hope that this report provides a foundation to facilitate wider and deeper discussions on these issues within the region, generating the momentum required that will result in lasting and meaningful change.

1. Introduction/Background

Background to the Research

- 1.1 In February 2024, Ambition North Wales, supported by funding from the six North Wales local authorities, Betsi Cadwaladr University Health Board and the Welsh Government, commissioned Miller Research to undertake research into strengthening local and regional food systems in North Wales.
- 1.2 The objectives of the research included:
- Assessing production capabilities across the region
 - Assessing the scale of market demand from public sector bodies and regional retail
 - Identifying key barriers and enablers to a stronger local food system
 - Provide recommendations for shortening supply chains and developing a more sustainable food system for North Wales
 - Identifying potential regional projects for Growth Deal (Capital) funding or other funding consideration.

Context / Rationale

- 1.3 Recent events have demonstrated the vulnerabilities of our local and national food system to shock and disruption. The current food system is unsustainable, with resource intensive production methods destroying the environment, while the current cost of living crisis threatens food security at both a household and national level. The reliance on food imports from international supply chains is a particular cause for concern, especially considering much of what is imported into North Wales can be grown locally.
- 1.4 Part of the rationale for the research was the need to better integrate local and regional supply chains, in particular addressing the issue of producers and farmers often working separately and without consideration of supply chain interactions. This fragmentation within supply chains can lead to inefficiencies, redundancies, and missed opportunities for collaboration. Furthermore, it can hinder the development of more sustainable practices and adoption of innovative approaches to address emerging challenges such as climate change, resource scarcity, diet-related health issues and shifting consumer demand. It is therefore hoped that the research findings will further contribute to the Healthy Weight, Healthy Wales strategy in Wales, reducing diet-related illnesses, obesity and malnutrition.¹²
- 1.5 As such, in this context, it is critical to explore how the food system can maximise economic benefits for North Wales, resulting in job creation and strengthening the rural economy.
- 1.6 The importance of increasing the resilience of the food supply chain in North Wales to external shocks is paramount, with factors such as climate change forecasted to increase in frequency and impact. Furthermore, the current

¹² [Healthy weight strategy \(Healthy Weight Healthy Wales\) | GOV.WALES](#)

uncertainty and volatility of markets at the global level, onset by recent events such as the COVID-19 pandemic and the conflicts in Ukraine and Gaza, only further underline the need to shorten supply chains and strengthen the local food system in North Wales.

- 1.7 Given the projected impacts of climate change (see Section 3 for more information), it is even more important that the food system is environmentally sustainable and enables opportunities to increase biodiversity, maintain soil health and reduce air pollution.
- 1.8 The research also underscores the urgent need for coordinated action to address the issues, given the clear imperative for increased resilience in the food system in North Wales, given emerging challenges around the cost of living and food poverty and its impacts on public health. Rapid action is essential to avoid exacerbating these existing issues.
- 1.9 Through identifying the risks and opportunities for various stakeholders in the food system and prioritising timely interventions and strategic initiatives, stakeholders can effectively bolster the resilience of the food system, laying the groundwork for a more sustainable and secure future for North Wales.

Limitations of the Research

- 1.10 The timing of this research coincided with heightened sensitivity in the agriculture sector related to the third round of consultation on the Sustainable Farming Scheme (SFS). The report does not seek to duplicate the significant research underpinning the SFS and instead has focused more on opportunities for increased horticulture production. This approach has been subsequently supported by recognition in the UK Food Security Report 2024 of the need to rapidly increase UK production of fruit and vegetables. Outcomes from the on-going Sustainable Farming Scheme consultations will be valuable alongside the findings of this report.
- 1.11 It should be noted that in most local authorities in North Wales the Food Coordinators have been placed within the community and/or poverty teams. As this is where their food system mappings have begun, there has been limited engagement to date with food businesses (producers, retail etc). The Food Partnerships model promoted by Sustainable Food Places also invites businesses and local authority teams with work relating to food and this is an area of further development for the Food Coordinators.

Report Structure

- 1.12 The report is designed to provide a clear and comprehensive understanding of the current barriers and enablers, risks and opportunities in the context of strengthening the local and regional food system in North Wales and is structured as follows:
 - **Literature review:** This includes a review of the characteristics of the North Wales food system, as well as an appraisal of the key risks and opportunities currently faced by the food system in North Wales.

A definition of local and regional food is provided, and a summary of the benefits and risks of strengthening local food systems.

- **Research findings:** An overview of the current state of the food system in North Wales, including key strengths and barriers that exist. Best practice examples of shortening supply chains and strengthening local food are presented.
- **Assessment of current distribution of regional demand:** Provides outline calculations around the level of demand from the public sector, as well as considering the implications for land use and development of supply chains to meet such demand. The levers of change identified from the North Wales food systems map are presented.
- **Recommendations:** The recommendations in the report have been developed to ensure feasibility – with most building on examples from elsewhere – while considering alignment with the needs and priorities of North Wales food system stakeholders. Within the recommendations are potential regional projects for capital or revenue-based funding.
- **Annexes:** This includes the methodology adopted for this research, an outline of future food scenarios, an assessment of regional corporate and wellbeing plans and a Bibliography of referenced sources.
- **Supporting documents.** For separate circulation, one page summaries have been developed to facilitate discussion of the report with teams influencing agri-food outcomes including planning, procurement, education, health and economy. Summaries of food initiatives by local authority in North Wales are also available, with references to exemplar case studies.

2. Literature Review

Characteristics of the North Wales Food System

- 2.1 Food and drink is a priority sector in Wales, with the supply chain employing around 233,500 people and contributing to an annual turnover of £22.3 billion in 2022.¹³ GVA for the Welsh food and drink supply chain increased by 8.9% from 2020 to 2021 from £5.61bn to £6.11bn. The food and farming industry is estimated to have employed around 20,900 people in North Wales in 2019, which represented 6.6% of the regional workforce at the time.¹⁴
- 2.2 Since 2022, each North Wales local authority has employed a Food Coordinator tasked to build a Local Food Partnership using the Sustainable Food Places Toolkit that brings together farmers, growers, food businesses and community food organisations.

Agriculture, horticulture and fisheries

- 2.3 Over 90% of the land area of Wales is given over to farming, with the majority of this used for rearing sheep and cattle.¹⁵ As of 2023, there are a total of 8.7 million sheep and lambs and 1.12 million cattle and calves in Wales.¹⁶ The total poultry population stands at 10,322,900, and the number of pigs is 24,800.¹⁷

Table 2.1: Livestock production in Wales

	2023	2019	Long-term trend
Sheep / lambs	8.7m	9.53m	Stable, slight decrease
Cattle	1.12m	1.12m	Stable
Pigs	24,800	24,400	Increase
Poultry	10.3m	8.5m	Decreasing meat (broilers), increasing egg production

- 2.4 This is reflected in Wales' production capabilities, with an imbalance between dairy and meat, which constitutes over two-thirds of Welsh food production, in comparison with horticultural production, which forms less than 10%.¹⁸ This has resulted in a major deficit between supply and demand, with Wales only producing 2% of the fruit and veg it consumes.¹⁹

¹³ Food and Drink Wales (2022) Welsh Food and Drink Economic Appraisal. Available at: [Economic Appraisal: Welsh Food and Drink sector | Business Wales - Food and drink \(gov.wales\)](#)

¹⁴ Available at: [Appendix 3b - Agri-Food Tourism - Executive Summary.pdf \(llyw.cymru\)](#)

¹⁵ Welsh Government (2023) Survey of Agriculture and Horticulture. Available at: [Survey of agriculture and horticulture: June 2023 | GOV.WALES](#)

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Welsh Government (2022) Farming Facts and Figures, Wales 2022. Available at: [Farming facts and figures: 2022 | GOV.WALES](#)

¹⁹ IWA (2023) Food Systems Change: Wales' Fork in the Road. Available at: [Food Systems Change: Wales' Fork in the Road - Institute of Welsh Affairs \(iwa.wales\)](#)

- 2.5 Livestock farms in Wales (excluding dairy) have typically relied on subsidies to generate a profit. Average income from agricultural production through livestock grazing has increased in recent years; however, 2021-22 was the first year where, on average, livestock grazing generated a profit through production alone.²⁰
- 2.6 North Wales is an important livestock rearing region, home to 30% of Wales' cattle and sheep farms, with particular strength in Gwynedd.²¹

Table 2.2: Livestock Farms in North Wales by County (2019)

		Farms with: Cattle & Calves	Farms with: Pigs	Farms with: Sheep and Lambs	Farms with: Fowls
Wales		10,587	1,385	13,738	24,550
North West Wales	Isle of Anglesey	595	63	622	1,226
	Gwynedd	987	96	1,534	2,171
North East Wales	Conwy	526	50	787	1,074
	Denbighshire	408	48	634	996
	Flintshire	295	42	345	767
	Wrexham	313	41	237	658
North Wales		3,124	340	4,159	6,892

Source: Stats Wales²²

- 2.7 The sheep flock in North Wales in 2019 totalled more than 3.1m animals, or 31% of the Welsh flock, along with 326,000 cattle, more than 8,000 pigs and 1.9m poultry.²³
- 2.8 Using 2020/21 data, Welsh farmers supplied 2.0 billion litres of milk. Of that milk, 50% was processed in Wales and 50% was transported into England for processing.²⁴ Of the volume processed in Wales, 47% out of 50% was turned into cheese.²⁵ Looking at North Wales, this indicates constrained milk processing is driving export of value-adding processes to England.
- 2.9 Similarly, limited abattoirs in Wales affect livestock processing²⁶ with Hybu Cig Cymru²⁷ identifying four PGI approved abattoirs and nine cutting plants

²⁰ Welsh Government (2023) [Farm incomes: April 2022 to March 2023 | GOV.WALES](#)

²¹ Stats Wales (2017) Farms with Livestock by Area. Available at: [Farms with Livestock by Area \(gov.wales\)](#)

²² Ibid.

²³ Stats Wales (2019) Total Livestock in Wales by Area. Available at: [Total Livestock in Wales by Area \(gov.wales\)](#)

²⁴ Welsh Milk Balance 2020/21 [Welsh milk balance | AHDB](#)

²⁵ Ibid.

²⁶ Sustainable Food Trust (2023) Final Abattoir Users Survey. Available at: [Final abattoir users survey web.pdf \(sustainablefoodtrust.org\)](#)

²⁷ G R Evans & Co (Corwen), Conwy Valley Meats Ltd (Llanrwst), Farmers Fresh (Wales) Limited (Wrexham) Jones Bros (Wrexham), Daphne's Welsh Lamb Ltd (Denbigh), Llechwedd

in North Wales for red meat. Maelor Foods in Wrexham offers substantial poultry processing facilities²⁸, to some extent replacing capacity lost when the 2 Sisters Plant in Llangefni was closed in 2023.

- 2.10 In terms of the agricultural landscape of North Wales, farmland in the region is approximately 60% permanent grassland, but North Wales is also home to more than 20,000 ha of farm woodland.²⁹
- 2.11 It is noteworthy that North West Wales accounts for just under one third of Wales' rough grazing that is associated with sole rights³⁰ But, where in North West Wales there is a focus on animal grazing, North East Wales has more arable land for growing crops. The breakdown of agricultural land in hectares can be seen in Table 2.3.

Table 2.3: Regional Distribution of Agricultural Land in North Wales (thousand hectares)

	Arable	Permanent grass	Rough grazing (sole rights)	Rough grazing (commons)	All other land on agricultural holdings	Total
North West Wales	28.3	150.0	82.6	21.2	15.7	297.7
North East Wales	42.5	147.6	39.5	21.8	10.8	262.1

Source: Welsh Agricultural Statistics 2016

- 2.12 Arable crop production has been steadily increasing in North Wales from 14,865 ha in 2007 to 23,017 ha in 2017.³¹ Average annual production of significant crops in North Wales through the same period as shown in table 2.4 below.

Trading Ltd (Gaerwen) RGB Webster & Sons Ltd (Kinmel Bay) Rhug Ltd. (Corwen), Stanley Jones Butchers (Wrexham)

²⁸ Poultry Network (2022) Maelor Foods submits planning to double production. Available at: [Maelor Foods submits planning to double production - Poultry Network](#)

²⁹ Welsh Government (2017) Type of Agricultural Land. Available at: [Type of Agricultural Land \(Hectares\) by Area \(gov.wales\)](#)

³⁰ Welsh Government (2019) Agriculture in Wales. Available at: [Agriculture in Wales | GOV.WALES](#)

³¹ Stats Wales (2019) Crops (Hectares) by Year. Available at: [Crops \(Hectares\) by Year \(gov.wales\)](#) Also see breakdown by county for 2017. Stats Wales (2019) Crops (Hectares) by Area. Available at: [Crops \(Hectares\) by Area \(gov.wales\)](#)

Table 2.4 Arable Crop Production in North Wales

Crop	Hectares (ha) – annual average 2007-2017
Wheat	4,224
Winter Barley	1,865
Spring Barley	3,736
Oats	1,054
Other Cereals for combining	340
Potatoes harvested by 31 July	113
Potatoes harvested after 31 July	276
Crops for Stock feeding	3,289
Field Beans & Peas	217
Maize	3,696
Oilseed rape	490
Other Crops	391

Source: StatsWales³²

2.13 90% of fishery landings in Wales are shellfish (crabs, cockles, scallops and whelk; 4,900 tonnes), with the remaining 10% demersal fish or bottom feeders.³³ The Menai Straits are a significant aquaculture site for mussel farming, typically producing between seven and 10,000 tonnes of mussels annually³⁴ mostly for export. However, changes in EU importing regulations mean production fell to around 400 tonnes in 2022, raising risks for the industry. Bivalve shellfish farming is one of the most efficient and sustainable forms of food production, and the Menai Straits has been independently certified as a sustainable fishery by the Marine Stewardship Council.

2.14 The Dee Estuary has a significant cockle fishery, landing 1,695 tonnes in 2021³⁵ and aquaculture in Wales produced almost 10,000 tonnes of fish and seafood in 2021, although it is not clear what proportion of this was in North Wales.³⁶

Food manufacturing

2.15 The food and drink industry stands as a fundamental pillar of the Welsh economy and culture, serving as a powerful means of promoting and exemplifying 'Welshness' on the global stage. This is evidenced by its consistent success in prestigious events like the Great Taste Awards. The food and drink sector is also a key contributor to rural development and the

³² Stats Wales (2019) Crops (Hectares) by Year. Available at: [Crops \(Hectares\) by Year \(gov.wales\)](https://gov.wales) Also see breakdown by county for 2017. Stats Wales (2019) Crops (Hectares) by Area. Available at: [Crops \(Hectares\) by Area \(gov.wales\)](https://gov.wales)

³³ UK Fisheries Statistics 2022. Available at: [SN02788/SN02788.pdf \(parliament.uk\)](https://www.parliament.uk)

³⁴ Mussel Farming in the Menai Straight (2021) Available at: [3-Menai-East-Briefing-Note-310321-WEB.pdf \(msforma.org\)](https://www.msforma.org)

³⁵ Seafish Wales Advisory Committee (2024) Wales Seafood Industry Dashboard - Seafood Supply. Available at: <https://walesdashboard.wfa-cpc.wales/view/seafood>

³⁶ Ibid.

foundational economy, with much of the business population within the sector in Wales condensed in the micro and SME size.³⁷³⁸ As such, ensuring it is effectively supported is one of the pillars of Welsh policymaking.

2.16 The Welsh Food and Drink Directory, maintained by Food Innovation Wales, features over 500 companies that manufacture quality food and drink products in Wales.³⁹ However, as this database may not represent all food producers within a local authority (e.g. start-up or micro food businesses or community-led producers) data gathered from mappings conducted in 2023 by the North Wales Food Coordinators has also been included – though data collection is still on-going for this work.

Table 2.5 Food businesses identified in the Food and Drink Directory

	Welsh Food & Drink Directory	Food Coordinator mapping
Anglesey	24 businesses	12 food hubs 7 allotments
Gwynedd	37 businesses	30 food hubs, 56 allotments
Conwy	22 businesses	13 food hubs 6 allotments
Denbighshire	20 businesses	31 food hubs, 10 allotments
Flintshire	12 businesses	60 food hubs, 15 allotments
Wrexham	19 businesses	124 food projects, 6 about growing

2.17 The importance of food and drink manufacturing to the region can be illustrated through calculation of location quotients. These take account of the proportion of food and drink manufacturing business as a total of all businesses in the region, compared to the same ratios for Wales and the UK. Hence a quotient of more than 1 indicates a relative strength, while a figure of less than 1 shows a relative under-representation in the sector. The data shows that North Wales has particular strengths in the number of drinks businesses compared to both Wales and the UK, with similar, but less strong results for food manufacturing. The region has a lower proportion of food and drink service businesses than the rest of Wales, but higher than for the UK as a whole.

³⁷ Food and Drink Wales (2020) Welsh Food and Drink Economic Appraisal. Available at: [Economic Appraisal: Welsh Food and Drink sector | Business Wales - Food and drink \(gov.wales\)](#)

³⁸ Food and Drink Wales (2022) Welsh Food and Drink Economic Appraisal. Available at: [Economic Appraisal: Welsh Food and Drink sector | Business Wales - Food and drink \(gov.wales\)](#)

³⁹ Food Innovation Wales. Welsh Food and Drink Directory. Available at: [Welsh Food and Drink Directory - Food Innovation Wales](#)

Table 2.6 Location quotients for food and drink activities in North Wales⁴⁰

Sector	Location Quotients	
	N Wales vs Wales	N Wales vs UK
Manufacture of food products	1.19	1.37
Manufacture of beverages	1.34	1.64
Food and beverage service activities	0.97	1.14

2.18 According to ONS data⁴¹ a total of 8,670 employees work in food and drink processing and manufacturing in North Wales, with strengths in meat processing (2,500 jobs) and bakery and related products (also 2,500 jobs in large companies such as Jones' Village Bakery and a growing number of smaller, artisan producers). Other strengths lie in "other food products" (2,500 employees) and dairy processing (600 employees including South Caernarfon Creameries, Snowdonia Cheese and Llaeth y Llan). Smaller numbers of people are employed in beverages (200) and in fish and vegetable processing (60 in total).

Food retail and hospitality

2.19 North Wales is well known for its hospitality and the food retail and hospitality sector is also a significant employer in the region. ONS data suggests that 26,500 people work across the sector, with a breakdown shown in Table 2.7 below.⁴² Restaurants and mobile food service activities was the largest sub-sector, accounting for almost half of all jobs.

Table 2.7 Food retail and hospitality employment in North Wales

Sector	Employees
Retail sale of food, beverages and tobacco in specialised stores	1,750
Hotels and similar accommodation	5,000
Restaurants and mobile food service activities	13,000
Event catering and other food service activities	2,250
Beverage serving activities	4,500
Total	26,500

Source: NOMIS

2.20 Other ONS data from the UK Business Counts⁴³ shows more than 2,800 food retail and hospitality businesses in the region, the majority

⁴⁰ ONS (2017) Location quotient data and geographic concentration for NUTS 1, NUTS 2 and local authorities. Available at: [Location quotient data and geographic concentration for NUTS 1, NUTS 2 and local authorities - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/location-quotient-data-and-geographic-concentration-for-nuts-1-nuts-2-and-local-authorities)

⁴¹ Business Register and Employment Survey, 2022 drawn from NOMIS.

⁴² Ibid.

⁴³ <http://www.nomisweb.co.uk/livelinks/16671.xlsx> Note that margins of error due to rounding and disclosure protection may be significant.

of which are micro businesses. Reflecting the employment figures above, restaurants and mobile food service businesses are the most numerous, with 1,305 businesses identified.

Table 2.8 Food retail and hospitality businesses in North Wales

Industry	Total	Micro (0 to 9)	Small (10 to 49)	Medium-sized (50 to 249)
Retail sale of food, beverages and tobacco in specialised stores	305	275	30	0
Hotels and similar accommodation	320	160	130	25
Restaurants and mobile food service activities	1305	980	305	25
Event catering and other food service activities	295	260	30	0
Beverage serving activities	595	380	200	15
Total	2820	2055	695	65

Source: NOMIS

Balance of local consumption and export

- 2.21 While data specific to North Wales data could not be identified, approximately 5% of beef produced in Wales is consumed within the country. The majority, around 80%, is enjoyed in the rest of the UK, while the remaining 15% is exported to other markets. Similarly, for lamb, approximately 5% is consumed in Wales, 60% in the UK, and 35% is exported to various destinations.⁴⁴ Wales currently produces around ¼ of a portion of fruit and vegetables per day per person.⁴⁵
- 2.22 In 2021, Welsh food and drink exports reached a record high of £641 million with Meat and Meat Products as the highest value export category, totalling £187 million, plus Cereal and Cereal Preparations which increased by 173% (from £51 million to £139 million) and Dairy and Birds Eggs which reached £106 million.⁴⁶ Welsh Food and Drink exports to the EU were worth £465 million in 2021, accounting for 73% of the total. Top EU destinations were Republic of Ireland (£113 million), France (£100 million), Netherlands (£49 million), and Germany (£44 million), with Non-EU destinations being USA and Saudi Arabia.⁴⁷

⁴⁴ HCC (2021) Industry Statistics. Available at: [Industry Statistics | HCC / Meat Promotion Wales](#)

⁴⁵ Tyfu Cymru (2020) Welsh Fruit and Veg Production. Available at: [Welsh Fruit and Veg Production - Baseline Study \(tyfucymru.co.uk\)](#)

⁴⁶ Food and Drink Wales. Welsh Food and Drink Annual Export Bulletin 2021. Available at: [Welsh Food and Drink Wales Bulletin 2021 \(gov.wales\)](#)

⁴⁷ Ibid.

Policy Context

- 2.23 Wales' food system is deeply interconnected with UK and international food networks.⁴⁸ The configuration of the food system in Wales is influenced by policies formulated at a UK level relating to trade, geo-politics, economic frameworks, and environmental sustainability.⁴⁹

Wellbeing of Future Generations Act

- 2.24 The Wellbeing of Future Generations Act (WBFGA)⁵⁰ in Wales provides a crucial framework for guiding policy and strategic decisions, including those related to the food and drink sector, towards fostering sustainable development, resilience, equality, and health. When considering a North Wales food system, the WBFGA holds significant relevance, as it provides a holistic framework for guiding the development of a food system that not only supports economic prosperity but also prioritises environmental sustainability, social equity, and public health. The WBFGA's 7 national wellbeing goals do not currently include specific reference to food, however, food is indicated through the 50 National Wellbeing indicators through elements such as Soil Quality and Recycling Rate (Inc. Food compost). The "Cymru Can" Strategy announced by the Wellbeing of Future Generations Commissioner also provides a stronger focus on food, specifically working towards two food priorities in Wales. These goals are to advocate and work towards the creation of a national food strategy and to provide guidance to Public Bodies and Public Service bodies on how to integrate food into their well-being objectives. Only two Health Boards have currently integrated food into their wellbeing plans and less than half of local authorities have integrated food into their well-being plans. Although work on the ground is building through community-led initiatives and the Food Coordinators' efforts, this is not always reflected through the Wellbeing Plans or sufficiently linked into wider economic and environmental considerations.

Vision for Food and Drink Industry

- 2.25 The Welsh Government's Vision for Food and Drink Industry (2021)⁵¹ outlines a comprehensive vision for the food and drink industry in Wales, with a primary focus on fostering sustainability, fair work practices, and potential development into wider UK and international markets. The document underscores the significance of ensuring a resilient supply chain, from growers to distributors, to sustain adaptability and foster robust,

⁴⁸ Sanderson Bellamy, A. and T Marsden. (2020). A Welsh Food System Fit for Future Generations. (Cardiff University and WWF Cymru). Available at: [A Welsh food system fit for future generations | WWF](#)

⁴⁹ Public Health Wales (2021) Rising to the triple challenge of Brexit, Covid-19, and Climate Change for health, well-being and equity in Wales. Available at: [phw.nhs.wales/publications/publications1/rising-to-the-triple-challenge-of-brexit-covid-19-and-climate-change-for-health-well-being-and-equity-in-wales/](#)

⁵⁰ Future Generations Commissioner for Wales (2015) Well-being of Future Generations (Wales) Act 2015. Available at: <https://www.futuregenerations.wales/>

⁵¹ Welsh Government (2021) Vision for Food and Drink Industry. Available at: [Vision for the food and drink industry from 2021 \(gov.wales\)](#)

sustainable growth. Such efforts will be equally crucial for establishing a robust local food system in North Wales. Underpinning this Vision are a series of programmes aimed at supporting Food Businesses at different points in their business journey. This is also supported by the Welsh Government Retail and Foodservice Plan 2021.⁵²

Sustainable Farming Scheme

- 2.26 The on-going Sustainable Farming Scheme consultation⁵³ is of particular significance to the North Wales food system and agricultural landscape. The consultations are shaping the Sustainable Farming Scheme (SFS) as Wales' long-term initiative to bolster the agricultural sector. The scheme proposes actions and support mechanisms based on extensive farmer and industry feedback. It emphasises the need for every facet of our economy to reduce emissions and halt biodiversity loss, aligning with global decarbonisation efforts and evolving consumer expectations.
- 2.27 In its current form, the Scheme offers a three-layer structure with 17 Universal Actions, emphasising productivity and competitiveness, and aims to integrate long-term strategies for agricultural resilience. Transition plans include phasing out the Basic Payment Scheme by 2029 and providing a Stability Payment for income continuity.⁵⁴ The changes will have implications for the farming community across Wales and land management practices relating to food production.

North Wales Local Authorities: Corporate Plan Strategic Priorities

- 2.28 Each local authority in North Wales has a corporate plan they work to deliver with their local partners. A Corporate Plan is a strategic document which sets out each local authority's vision and strategic priorities for delivering on its objectives with its partners. Any plan for strengthening the local food system in North Wales will need to align with priorities set out in the Corporate Plans to be effectively embedded into local policy development and operational delivery.
- 2.29 The Corporate plans from each of the six local authorities in North Wales⁵⁵ have been reviewed (see Annex C) and the strategic priorities related to agri-food have been mapped out to identify where strategic priorities cluster across different local authorities and where there is divergence. Key areas local authorities have responsibility for that directly relate to agri-food include planning, education, economic development, community resilience and safety.

Healthy Weight Healthy Wales

⁵² Welsh Government (2023) Together for retail: a Wales Retail Forum action plan. Available at: [Together for retail: a Wales Retail Forum action plan \[HTML\] | GOV.WALES](#)

⁵³ Welsh Government (2024) Sustainable Farming Scheme.

⁵⁴ Welsh Government Sustainable Farming Scheme (2024) Outline Proposals for 2025 Available at: [Sustainable Farming Scheme \(gov.wales\)](#)

⁵⁵ Gwynedd Council, Conwy County Borough Council, Flintshire County Council, Anglesey County Council, Denbighshire County Council, Wrexham County Borough Council.

- 2.30 Healthy Weight: Healthy Wales set out Welsh Government’s ambitious plan over a ten-year period, to transform the way decisions are made in everyday life which impact upon weight and wellbeing. The strategy is set out across four key themes: Healthy Environment, Healthy People and Leadership and Enabling change.⁵⁶
- 2.31 Healthy Weight Healthy Wales offers momentum at both a national and international level, offering a key unifying policy to better improve diet and nutrition across Wales. This is particularly key when addressing the North Wales Food Systems to address the current policy surrounding nutrition and health across Wales.

Wider Risks Affecting the Welsh Food System

- 2.32 Despite the cross-cutting ability of food to deliver multiple benefits, there are a number of external risks that threaten the resilience of the Welsh food system. This section identifies these risks and their likely impact on the food system North Wales, as well as any potential leverage points for managing or mitigating risk. Understanding and addressing these risks are crucial for safeguarding the integrity and sustainability of the North Wales food system, ensuring its ability to provide nutritious food, support livelihoods, and contribute positively to societal well-being

Increasing Food Security Concerns

- 2.33 The '2021 UK Food Security Report'⁵⁷ highlights five principles that are crucial for understanding and addressing food security in the UK:

Global food availability: the supply and demand of food at a global level.

UK food supply sources: the balance of food imports to the UK from abroad and UK domestic food production.

Food supply chain resilience: the infrastructure underlying the supply chain by which food is supplied to UK consumers.

Food security at household level: the extent to which households can consistently afford and have access to sufficient healthy and nutritious food.

Food safety and consumer confidence: the extent to which consumers have confidence in the safety and authenticity of the food they eat.

- 2.34 There are a multitude of factors affecting food security at household level, ranging from the impact of global food price inflation, international trade, and supply chains to domestic policies and structural inequalities in the UK.
- 2.35 The Trussell Trust’s 2023 Hunger in Wales report describes the increase in levels of food poverty and food insecurity across the UK as a pervasive rise

⁵⁶ Healthy Weight Healthy Wales - Available at: [Healthy weight strategy \(Healthy Weight Healthy Wales\) | GOV.WALES](#)

⁵⁷ UK Government (2021) Food Security Report. Available at: [United Kingdom Food Security Report 2021 - GOV.UK \(www.gov.uk\)](#)

over time.⁵⁸ The combined impacts of the pandemic, inflation, and subsequent economic policy failures, however, have deepened the need to examine the societal risks and impacts associated with long-term food insecurity. A recent study by the Food, Farming and Countryside Commission (FFCC) found that 80% of people believe that healthy food is something that everyone should be able to have access to, yet only 8% of people think healthy food is affordable to most people. Almost half of people surveyed (49%) stated that financial pressures have made them cut back on the quality of food they eat, thus reflecting the worsening food environment in the UK.⁵⁹

- 2.36 In North Wales, there are several 'priority places' for food, which are neighbourhoods that are most vulnerable to increases in the cost of living and which have a lack of accessibility to cheap, healthy, and sustainable sources of food. This includes locations in Denbighshire, Conwy, Wrexham, and Flintshire, with the primary drivers including socio-demographic barriers; fuel poverty; and poor accessibility to food retail establishments and online delivery services.⁶⁰
- 2.37 Data from Stats Wales⁶¹ shows that at local authority level, five out of the six North Wales local authorities are below the Wales average in term of eligibility for free school meals, with the exception of Wrexham. However, the level at which data is aggregated can obscure sub-local authority levels of poverty in certain areas.
- 2.38 Research by AHDB highlights the links between economic poverty and food poverty, citing the statistic that the poorest 10% of households in the UK would have to spend 75% of their household income on food to meet the Eatwell standards,⁶² compared with 8% for the average household.
- 2.39 Data from the Welsh Index of Multiple Deprivation identifies Rhyl West 1 and Rhyl West 2 as the two poorest wards in Wales – implying a link to food poverty here.⁶³ This demonstrates the issue of hidden poverty in an area such as North Wales.

⁵⁸ Hunger in Wales Report, Trussel Trust (2023). Available at: [2023-Hunger-in-Wales-report.pdf \(trusseltrust.org\)](https://www.trusseltrust.org/2023-hunger-in-wales-report.pdf)

⁵⁹ Food Farming and Countryside Commission (2023) So, what do we really want from food? Available at: [So, what do we really want from food? - Food, Farming and Countryside Commission \(ffcc.co.uk\)](https://www.ffcc.co.uk/so-what-do-we-really-want-from-food/)

⁶⁰ Which (2024) Priority Places for Food. Available at: [Priority Places \(which.co.uk\)](https://www.which.co.uk/priority-places)

⁶¹ Stats Wales (2023) Pupil Level Annual School Census summary data by local authority (pupils aged 5 to 15 in primary, middle or secondary schools). Available at: [Pupil Level Annual School Census summary data by local authority \(pupils aged 5 to 15 in primary, middle or secondary schools\) \(gov.wales\)](https://gov.wales/pupil-level-annual-school-census-summary-data-by-local-authority-pupils-aged-5-to-15-in-primary-middle-or-secondary-schools)

⁶² AHDB (2020) Why UK consumers spend 8% of their money on food. Available at: [Why UK consumers spend 8% of their money on food | AHDB](https://www.ahdb.co.uk/why-uk-consumers-spend-8-of-their-money-on-food)

⁶³ Statistics for Wales (2019) Welsh Index of Multiple Deprivation (WIMD) 2019 Results report. Available at: [Welsh Index of Multiple Deprivation \(WIMD\) 2019: Results report \(gov.wales\)](https://gov.wales/welsh-index-of-multiple-deprivation-wimd-2019-results-report)

COVID-19 Pandemic

- 2.40 The COVID-19 pandemic exposed vulnerabilities within the UK's food system, underscoring risks associated with external shocks.⁶⁴ North Wales is an area that was particularly hit by the pandemic, with the most severe pressure point being on food and food supplies.⁶⁵ In North Wales, the pandemic accentuated the challenges faced by many in low-income households, particularly families reliant on free school meals.⁶⁶ Short-term supply shortages were combined with the issues of accessibility and affordability for low-income households, highlighting the connection between national and household food security. Although food shortages and supply-chain disruption affected many areas throughout the UK and Wales, food shortages were exacerbated due to the rurality of the region and greater economic hardship. Disruptions in transportation and logistics also meant that goods were not reaching more hard-to-reach communities.
- 2.41 The COVID-19 pandemic had a sudden and massive impact on businesses and supply chains of all sizes. The immediate impact was illustrated by various statistics: total sales of food and drink fell by £190 million (27%), and, despite increased grocery sales, the total spend on food and drink was around 20% lower than normal due to the almost complete closure of the service sector. Shopping patterns changed nationwide, with people prioritising online channels and convenience stores.⁶⁷
- 2.42 The business sector observed significant impacts on businesses of all sizes and sectors, with severe negative impacts on sales, profits, and customers. The foodservice trade and other routes, such as wholesale, ceased to function, resulting in significant impacts at all levels within the sector, especially among food and drink wholesalers. Supply chain disruption was particularly noticeable in sub-sectors such as red meat, dairy, and horticulture.⁶⁸
- 2.43 The pandemic prompted a spike in 'informal' and independent food aid activity across the UK, addressing shortages and barriers which established food banks could not handle. The events of the pandemic demonstrated the

⁶⁴ Power, M et al (2020) How COVID-19 has exposed inequalities in the UK food system: The case of UK food and poverty. Available at:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7219559/>

⁶⁵ Annals in Social Responsibility (2022) The cost of COVID: the impact of COVID-19 on food security, place and community in North Wales. Available at: [Impact of COVID-19 on the food security and identifying the compromised food security dimension: A systematic review protocol | PLOS ONE](#)

⁶⁶ Jones, R., Thomas Lane, E., & Prosser, L (2021) Coronavirus' exposure of food, place and community resilience: a Welsh local authority perspective. Journal of Place Management and Development, 15(4), 476-492. Available at: <https://doi.org/10.1108/JPMD-02-2021-0014>

⁶⁷ Welsh Government (2020) COVID-19: Food and Drink Wales. Available at: [COVID-19 Food and Drink Wales | Business Wales - Food and drink \(gov.wales\)](#)

⁶⁸ Ibid.

need for an increased focus on the notion of household food security, and in turn, definitions of food insecurity.^{69 70}

Inflation and cost of living crisis

- 2.44 It is necessary to address how the cost of living crisis and food price inflation has exacerbated food insecurity in North Wales and across the rest of Wales. Greater financial pressures have placed more pressure on households, affecting their ability to reliably secure nutritionally dense and healthy foods in areas of North Wales, communities are facing significant challenges in meeting their living costs, with an increased risk of food poverty.⁷¹
- 2.45 In 2022, the majority of households in Wales experiencing food insecurity did not receive food aid, suggesting that reporting on food bank use and food aid does not adequately capture the scale of the issue.⁷² Even where households are able to access food banks, the nutritional value of the food received can be highly variable and often promote reliance on ultra-processed food.⁷³
- 2.46 Food price inflation, significantly driven by a 10.1% rise in the Consumer Prices Index (CPI) in the 12 months to July 2022, exacerbates this problem, particularly affecting low-income households for whom food expenses constitute a larger budget share.⁷⁴ Tracking measures, such as the 'basic basket' tracker used by the Food Foundation have highlighted that true costs of inflation are higher when applied to regular food items which contribute to an adequately nutritious diet.⁷⁵
- 2.47 Community engagement focused on the cost of living crisis found that, in North Wales, many individuals were struggling to afford basic necessities, particularly food.⁷⁶ This has meant that, in recent years, there has been a surge in demand for food bank vouchers. Factors contributing to this included insufficient income for survival, food poverty leading to skipped meals and reliance on processed foods from food banks. Frontline organisations providing support have also been under pressure, with limited

⁶⁹ Food Standards Agency (2021) Food in a Pandemic Available at: [Renew Normal: Food in a Pandemic](#)

⁷⁰ The Food Foundation (2021) The Impact of Covid-19 on Household Food Security. Available at: [FF_Impact-of-Covid_FINAL.pdf \(foodfoundation.org.uk\)](#)

⁷¹ Conwy and Denbighshire Public Services Board (2023) Well-being Plan 2023 to 2028. Available at: [Local Well-being Plan \(2023-2028\) \(conwyanddenbighshirelsb.org.uk\)](#)

⁷² Hunger in Wales Report, Trussel Trust (2023). Available at: [2023-Hunger-in-Wales-report.pdf \(trusselltrust.org\)](#)

⁷³ Oldroyd, L, Eskandari, F, Pratt, C & Lake, A 2022, 'The Nutritional Quality of Food Parcels Provided by Foodbanks and the Effectiveness of Foodbanks at Reducing Food Insecurity in Developed Countries: A Mixed-Method Systematic Review', *Journal of Human Nutrition and Dietetics*, vol. 35, no. 6, pp. 1202-1229. <https://doi.org/10.1111/jhn.12994>

⁷⁴ Consumer Price Inflation, UK- Office for National Statistics (2022). Available at: [Consumer price inflation, UK - Office for National Statistics](#)

⁷⁵ Food Prices Tracker, The Food Foundation (2024) Available at: [Food Prices Tracker: February 2024 | Food Foundation](#)

⁷⁶ Trefnu Cymunedol Cymru (2022) TCC Cost-of-Living Summit Summary report (issues, solutions, pledges). Available at: [Cost of Living Summit \(tcc-wales.org.uk\)](#)

access to funding and decreased donations. Volunteers, who played a crucial role in providing aid, also faced difficulties due to rising fuel costs and

fatigue.⁷⁷ Overall, there has been a concerning trend of food insecurity and strained resources within communities, with vulnerable populations bearing the brunt of these challenges.

Demographic Changes

- 2.48 Across the County Boroughs in North Wales (Table 2.5) many have a population of those currently aged 65 or over which is higher than the average for Wales (21.4%). The Flintshire wellbeing plan predicts a continued improvement in life expectancy, and that the population aged 65 and over is expected to grow substantially from 31,000 in 2015 to 40,000 by 2024.⁷⁸
- 2.49 Other factors affecting the region include slowing population growth, an aging population, increasing housing demand, changing migration patterns, and evolving health profiles and needs. Additionally, Brexit has had a significant negative impact on the availability of seasonal migrant labour.⁷⁹
- 2.50 These demographic and socio-economic shifts could potentially impact food security in the region due to challenges in maintaining a sufficient labour force for agricultural production, as well as changes in dietary needs and access to nutritious food among the aging population and those with health limitations.

Table 2.9 - Population Demographics and Population Trends by Local Authority

Local Authority	Anglesey	Gwynedd	Conwy	Denbighshire	Flintshire	Wrexham
Total population⁸⁰	70,094	126,166	117,925	96,690	156,347	142,756
Projected population in 2034⁸¹ (% change)	69,093 (-1.4)	130,608 (+3.5)	118,588 (+0.6)	97,415 (+0.7)	156,662 (+0.2)	147,850 (+3.6)
% population over 65⁸²	26.8	23.5	27.7	24.9	21.7	20.6
% population with disabilities⁸³	8.5	7.7	9.2	10.3	8.3	9.3
Most deprived 10% LSOAs in Wales⁸⁴	2	3	6	12	3	7

⁷⁷ Personnel Today (2023) Food banks Staff Wellbeing. Available at: [Food banks staff wellbeing: staff being offered counselling \(personneltoday.com\)](https://www.personneltoday.com/wellbeing/staff-being-offered-counselling/)

⁸⁰ 2021 Census Data

⁸¹ Population Projections by Local Authority (2024). Available at: [Population projections by local authority and year \(gov.wales\)](https://gov.wales/population-projections-by-local-authority-and-year/)

⁸² 2022 Population estimates based on Census Data. Available at: [Population estimates by local authority and age \(gov.wales\)](https://gov.wales/population-estimates-by-local-authority-and-age/)

Impacts of Climate Change in the UK and Wales

- 2.51 The IPCC have concluded that natural and human systems are already straining under current climatic changes, with some regions experiencing irreversible damage to food security.⁸⁵ A global warming scenario of 1.5°C to 2°C could exacerbate challenges related to food production and accessibility. A rise above 2°C would pose even more severe risks. Key global risks include the degradation of soil health, loss of essential ecosystem services, increased pests and disease, and reduced marine biomass, all of which undermine food productivity.
- 2.52 The UK itself has experienced noticeable changes in its climate over recent decades. The annual average temperature has warmed at approximately 0.3 °C per decade, leading to more frequent and severe heatwaves across the country.⁸⁶ Sea levels have risen over 5 cm since 1990 and continue to rise, contributing to increased coastal erosion and flooding risks.⁸⁷
- 2.53 Soil degradation in the UK, due to human activities can lead to erosion, compaction, and pollution, which further compounds these challenges, with significant economic costs already being incurred.⁸⁸ A 2019 report into the state of soil health in the UK indicated that soil degradation was estimated in 2010 to have cost £1.2 billion every year.⁸⁹
- 2.54 Warming temperatures across the UK have been even more pronounced in Wales, where the decade from 2010 – 2019 was 0.9 °C warmer than the period from the mid-1970s to the mid-2010s.⁹⁰ The year 2022 set a new record for heat, with temperatures soaring to 37.1°C at Hawarden Airport in

⁸¹ Population Projections by Local Authority (2024). Available at: [Population projections by local authority and year \(gov.wales\)](#)

⁸² 2022 Population estimates based on Census Data. Available at: [Population estimates by local authority and age \(gov.wales\)](#)

⁸³ 2021 Census Data. Available at: [Disability, England and Wales - Office for National Statistics \(ons.gov.uk\)](#)

⁸⁴ WIMD Data (2019) : [Local Authority Analysis \(gov.wales\)](#)

⁸⁵ FAO/WFP (2022) Hunger Hotspots: FAO-WFP early warnings on acute food insecurity. Available at: [Hunger Hotspots FAO-WFP early warnings on acute food insecurity June to September 2022 Outlook | World Food Programme](#)

⁸⁶ CCC (2021) Independent Assessment of UK Climate Risk (CCRA3). Available at: [Independent Assessment of UK Climate Risk - Climate Change Committee \(theccc.org.uk\)](#)

⁸⁷ CCC (2023) Adapting to climate change Progress in Wales. Available at: [Adapting to climate change - Progress in Wales \(theccc.org.uk\)](#)

⁸⁸ UK Climate Risk (2021) Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021. Agriculture and Food Briefing. Available at: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Briefing-Agriculture-and-Food.pdf>

⁸⁹ Environment Agency (2019) The state of the environment: soil. Available at: https://assets.publishing.service.gov.uk/media/5cf4cbaf40f0b63affb6aa55/State_of_the_environment_soil_report.pdf

⁹⁰ CCC (2023) Adapting to Climate Change, Progress in Wales. Available at: [Adapting to climate change - Progress in Wales \(theccc.org.uk\)](#)

Flintshire.⁹¹ This shift towards warmer conditions has led to more frequent and intense heatwaves across Wales, disrupting traditional climate patterns.⁹²

2.55 Rainfall patterns have also shifted, with Wales experiencing a slight increase in annual mean rainfall in recent decades.⁹³ This change has contributed to extreme flooding events, as seen in February 2020, when record rainfall and successive storms led to widespread damage across the country.⁹⁴ Predictions for the future indicate that storm damage risk is likely to increase in areas of North Wales by 2060-2080⁹⁵, with a substantial portion of North Wales being at high or moderate risk of storm damage (Figure 1). Slope failure risk is also expected to considerably increase by 2060, with the majority of Wales being considered at high risk by this time period (Figure 2).

⁹¹ Met Office (2023) UK Climate Extremes. Available at:

<https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-extremes>

⁹² CCC (2023) Adapting to Climate Change - Progress in Wales. Available at: [Adapting to climate change - Progress in Wales \(theccc.org.uk\)](#)

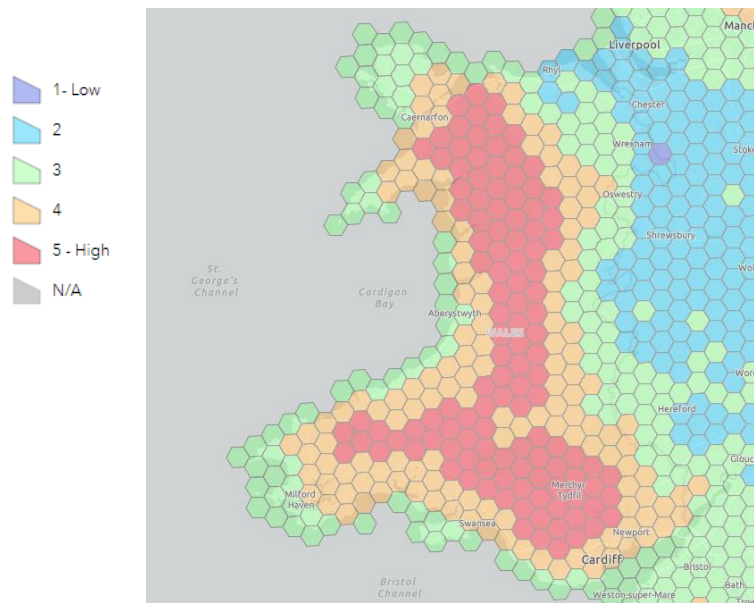
⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ National Trust (2024) National Trust Climate Hazards. Available at:

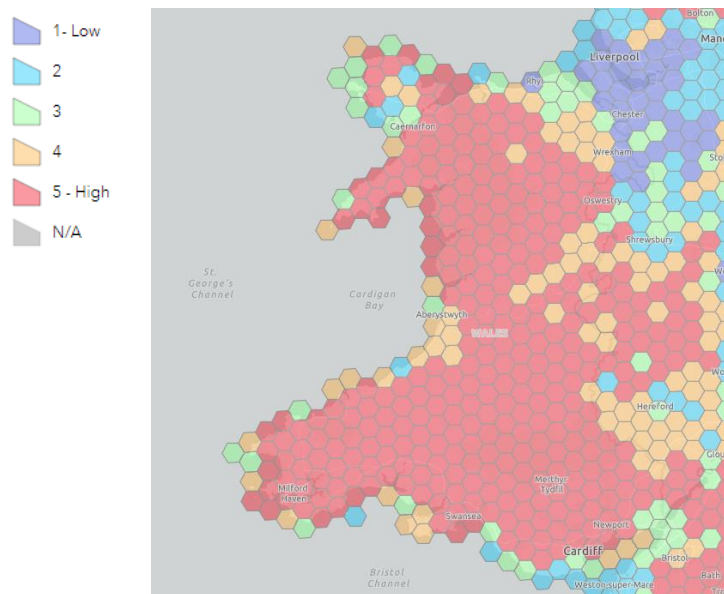
[National Trust Climate Hazards \(arcgis.com\)](#)

Figure 2.1: Storm Damage Future Predictions



Source: National Trust Climate Hazards

Figure 2.2: Slope Failure Future Predictions



Source: National Trust Climate Hazards

Impacts of climate change on supply chains to Wales

2.56 The increased intensity and frequency of extreme weather events caused by climate change pose significant challenges to all dimensions of food security in Wales. This includes food shortages and price rises as extreme weather events reduce quality and lower production yields. This, in turn, restricts access for consumers, resulting in higher prices which disproportionately

affect poorer families.⁹⁶ The effects of this are already evident, with the impacts of climate change and rising energy prices adding £400 to UK consumers' bills in 2022.⁹⁷

- 2.57 Climate change also threatens consumer confidence with the rise in foodborne illnesses due to changing conditions, the introduction of new pests and diseases and the potential for food contamination from increased use of agricultural inputs under adverse weather conditions.⁹⁸
- 2.58 Economic consequences of climate impacts on agriculture can lead to loss of livelihoods of farmers and community's dependant on agricultural and related sectors, exacerbating poverty and reducing access to food.⁹⁹ In 2018, losses due to extreme weather in the livestock sector were estimated at £206.7 million, equivalent to 11% of the total Welsh agricultural output that year.¹⁰⁰
- 2.59 In terms of the wider supply chain, extreme weather events can disrupt transportation and infrastructure critical to the distribution of food, leading to supply chain bottlenecks and reduced market access.¹⁰¹ Global markets will not be accessible to all countries, and climatic shocks can influence supply flows, bilateral contracts, and import/export behaviours.¹⁰²
- 2.60 The Food and Drink sector in Wales and the UK is particularly vulnerable to these impacts due to its reliance on imported produce. Wales' reliance on global supply chains for both animal feed (notably soya imports) and produce such as fruit and veg exposes its food system to global market volatilities.¹⁰³¹⁰⁴ This uneven distribution underscores the complex interplay between climate variability and food security, where the reliance on global markets for food imports and exports means that the consequences of

⁹⁶ Bailey, R. et al. (2015) Extreme Weather and Resilience of the Global Food System. Final Project Report from the UK-US Taskforce on Extreme Weather and Global Food System Resilience. Available at: [Extreme weather and resilience of the global food system - World | ReliefWeb](#)

⁹⁷ Energy & Climate Intelligence Unit (2023) Climate Impacts on UK Food Imports; Spotlight on: The Mediterranean. Available at: [food-med-aug-2023CORR.pdf \(edcdn.com\)](#)

⁹⁸ CCC (2023) Adapting to Climate Change, Progress in Wales. Available at: [Adapting to climate change - Progress in Wales \(theccc.org.uk\)](#)

⁹⁹ EPA (2023) Climate change impacts on agriculture and food supply. Available at: <https://www.epa.gov/climateimpacts/climate-change-impacts-agriculture-and-food-supply>

¹⁰⁰ Farmlytics (2024) Extreme weather and its impact on farming viability in Wales.

¹⁰¹ IPCC. (2019) Food Security. In: Special Report: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. Available at: [Chapter 5 : Food Security — Special Report on Climate Change and Land \(ipcc.ch\)](#)

¹⁰² FAO (2015) Climate change and food security: risks and responses. Available at: <https://www.fao.org/3/i5188e/i5188E.pdf>

¹⁰³ WWF Cymru, RSPB Cymru and Size of Wales (2021) Wales and Global Responsibility; Addressing Wales' Overseas Land Footprint. Available at: https://www.wwf.org.uk/sites/default/files/2021-11/wwf_risky_b_wales.pdf

¹⁰⁴ IWA (2023) Food Systems Change: Wales' Fork in the Road. Available at: [Food Systems Change: Wales' Fork in the Road - Institute of Welsh Affairs \(iwa.wales\)](#)

climate disruptions in one region can have far reaching impacts on food availability and prices.^{105 106}

- 2.61 Agricultural production and the supply chains responsible for the distribution of food and drink around the globe are also a key contributor to climate change.¹⁰⁷ Action to mitigate climate change and meet environmental commitments will require ongoing efforts to reduce emissions associated with food and drink production, distribution, and consumption while also adapting these systems to build lasting climate resilience.¹⁰⁸
- 2.62 Climate change clearly poses a significant external threat to food security. While relying solely on local food is not the complete solution to this challenge, enhancing the diversity of food sources and prioritising locally sourced options can boost resilience. This approach helps mitigate the external impacts of climate change on food production in highly affected regions, as well as addresses logistical hurdles and trade barriers. However, it's important to note that this strategy is part of a broader approach to enhancing resilience, rather than a standalone solution.

Wider Opportunities Affecting the Welsh Food System

Marketing of products produced in Wales

- 2.63 There exists potential for marketing Welsh fruit and vegetables as 'local' food, presenting clear opportunities for businesses. Particularly providing businesses the opportunity to connect with local markets and consumers through retailers and farmers markets. However, the effect of consuming 'local' food on emissions remain unclear given that most food related emissions are associated with production rather than transport.¹⁰⁹ However, more recent evidence has suggested that almost 20% of food related emissions globally are associated with food miles, therefore suggesting a more complex and nuanced picture of food related emissions.¹¹⁰ Nonetheless, preferential purchasing of Welsh produce by consumers and/or the public sector can significantly benefit the Welsh economy.¹¹¹ A

¹⁰⁵ UK Research and Innovation, (2023) Strengthening the resilience of the UK Food System-Scope. Available at: [Strengthening the resilience of the UK food system – UKRI](#)

¹⁰⁶ Lawrence, J. et al (2020). Cascading climate change impacts and implications. *Climate Risk Management*. 29:100234. Available at: <https://doi.org/10.1016/j.crm.2020.100234>

¹⁰⁷ Poore, J., Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. Available at: [Extreme weather and its impact on farming viability in Wales. WWF Cymru | WWF](#)

¹⁰⁸ Springmann, M., Clark, M., Mason-D'Croz, D., Wiebe, K., Bodirsky, B. L., Lassaletta, L. (2018). Options for keeping the food system within environmental limits. *Nature* 562, 519–525. Available at: [Options for keeping the food system within environmental limits | Nature](#)

¹⁰⁹ Ritchie, H. (2020) You want to reduce the carbon footprint of your food? Focus on what you eat, not whether your food is local. Available at: [You want to reduce the carbon footprint of your food? Focus on what you eat, not whether your food is local - Our World in Data](#)

¹¹⁰ Li, M., Jia, N., Lenzen, M., Malik, A., Wei, L., Jin, Y. and Raubenheimer, D. (2022) Global food-miles account for nearly 20% of total food-systems emissions. *Nature Food*, 3(6): 445–453.

¹¹¹ Plassmann, K., Edwards-Jones, G. (2007). Scoping the environmental and social footprint of horticultural food production in Wales.

study by Welsh Government found that Welsh consumers generally have a stronger appetite for buying Welsh food than other areas in the UK, with 78% of shoppers in Wales say that they would always buy Welsh if the price is right and 44% willing to pay more for Welsh products, however ability to purchase Welsh products is often limited by availability.¹¹² Additionally, a recent 2023 Which study has noted the increased financial pressure on Welsh consumers through increased energy prices and inflation, the proportion of Welsh consumers worried about food prices has increased by 11 percentage points to 86% in December 2022.¹¹³

- 2.64 Research has shown that historically retailers have made minimal efforts to actively promote locally sourced food in their stores.¹¹⁴ This has made grocery shoppers' access to local foods – particularly when combined with the absence of other, smaller retailers - limited. Thus, unless major food retailers in the UK build on small scale, initial efforts to reorganise their supply systems to support small local producers, the presence of truly local food in stores is unlikely to see significant growth and local food systems may struggle to develop. There have been some efforts to address this through the Trade Development Programme, the Welsh Government Market Insight Programme and Value of Welshness research.^{115,116,117} Events such as Blas Cymru/ Taste Wales and The Royal Welsh Business Lounge bring together retailers and producers, generating nearly £40 million in sales for Welsh businesses in 2023.^{118,119}

Increasing demand for local and organic veg box schemes

- 2.65 There is a notable increase in demand for local and organic veg box schemes, driven by heightened awareness among consumers and chefs. Small-scale horticulture offers a diversity of crops, with added value potential through processing. Additionally, large-scale production, exemplified by companies like Puffin Produce, contributes to meeting this demand.¹²⁰ There is also potential for promising innovations such as food hub locations at

¹¹² Food and Drink Wales (2020) Value of Welshness: Shopper Desire for Welsh Produce.

¹¹³ Which (2023), Consumers in Wales 2023. Available at: [Drink sector research \(gov.wales\)](https://www.which.co.uk/consumers-and-business/which-research/which-research-2023-wales)

¹¹⁴ Jones, P., Comfort, D., & Hillier, D. (2013). Local food and the UK's leading food retailers: Rhetoric and reality. *World Review of Entrepreneurship Management and Sustainable Development*, 9(1)

¹¹⁵ Food and Drink Wales (2021) Food and Drink Insight Programme. Available at: [Insight Programme | Business Wales - Food and drink \(gov.wales\)](https://www.gov.wales/business-wales/insight-programme)

¹¹⁶ Food and Drink Wales (2020) Value of Welshness: Shopper Desire for Welsh Produce. Available at [The Value of "Welshness" | Business Wales - Food and drink \(gov.wales\)](https://www.gov.wales/business-wales/value-of-welshness)

¹¹⁷ Welsh Government (2022), Trade Development Programme. Available at [Trade Development Programme | Business Wales - Food and drink \(gov.wales\)](https://www.gov.wales/business-wales/trade-development-programme)

¹¹⁸ Welsh Government Press Release (2024) £38 million taste of success for Welsh food and drink. Available at: [£38 million taste of success for Welsh food and drink | GOV.WALES](https://www.gov.wales/news-releases/38-million-taste-of-success-for-welsh-food-and-drink)

¹¹⁹ Food and Drink Wales. Royal Welsh Week enhanced a bumper year for Welsh food and drink. Available at: [Royal Welsh Week enhanced a bumper year for Welsh food and drink | Business Wales - Food and drink \(gov.wales\)](https://www.gov.wales/business-wales/royal-welsh-week)

¹²⁰ Tyfu Cymru (2020) Welsh Fruit and Veg Production. Available at: [Training and Support for Welsh Horticulture - Tyfu Cymru](https://www.gov.wales/business-wales/tyfu-cymru)

which farmers can drop off locally produced food and distributors and consumers can pick it up.¹²¹

Novel Crops

- 2.66 In the face of climate change and the risks it poses to food security, opportunities are available for experimenting with the production of various crops and livestock suitable for the climate to enhance economic and climate resilience. However, this necessitates the development of markets, consumer demand, and appropriate infrastructure.¹²²
- 2.67 In the future, a warmer climate in Wales could lead to a wider variety of foods being produced and higher yields due to longer, milder growing seasons. This change may also allow Welsh growers, farmers, and fishers to better use their knowledge and expertise in preserving resources and ecosystems.¹²³ Work on this has already begin, with the European Innovation Partnership (EIP) Wales funding agricultural projects in Wales that encouraged collaboration between those from practical farming backgrounds and those from scientific ones to trial new innovative ideas and technologies, however funding from EIP ended in March 2023. For example, two commercial horticulture units in North Wales held a trial on opportunities for market diversification using unusual and exotic vegetables and edible flower production.¹²⁴
- 2.68 However, it is crucial that this is considered only one part of a larger strategy for food security, and not seen as the sole solution to offset the adverse effects of climate change or reduce actions to mitigate current emissions.

Benefits and Risks of Local and Regional Food Systems

- 2.69 Although the geographic scale of what defines a local and regional food system is contested¹²⁵, they can generally be defined as the interconnected network of agricultural and food-related activities within a specific geographical area or region. It encompasses all aspects of food production, processing, distribution, consumption, and waste management within that

¹²¹ Union of Concerned Scientists (2011) Market Forces: Creating Jobs through Public Investment in Local and Regional Food Systems.

¹²² Turley, D., Hodsman, L., Ceddia, G. (2003) The Economic Potential of Plants and Animals Not Currently Fully Exploited by the Welsh Agricultural Sector, Appendix I. Sources of information used to derive a list of potential crop and animal enterprises for Wales. Available at: [Market Forces: CREATING JOBS THROUGH PUBLIC INVESTMENT IN LOCAL AND REGIONAL FOOD SYSTEMS on JSTOR](#)

¹²³ Green, L., Ashton, K., Jones, A.T., Fletcher, M., Morgan, L., Johnson, T., Evans, T., Azam, S., Bellis, M.A (2020) Rising to the Triple Challenge of Brexit, COVID-19 and Climate Change for health, well-being and equity in Wales: Spotlight on: Food Security. Available at: [phw.nhs.wales/publications/publications1/rising-to-the-triple-challenge-of-brexit-covid-19-and-climate-change-for-health-well-being-and-equity-in-wales/](#)

¹²⁴ Business Wales (n.d.). Opportunities for market diversification and increased farm resilience with unusual and exotic vegetables and edible flower production in Wales. Available at: [Opportunities for market diversification and increased farm resilience with unusual and exotic vegetables and edible flower production in Wales. | Farming Connect \(gov.wales\)](#)

¹²⁵ Martinez, S., Hand, M., Da Pra, M., Pollack, S., Ralston, K., Smith, T., Vogel, S., Clark, S., Lohr, L., Low, S., & Newman, C. (2010). Local food systems: Reviewing two decades of research. U.S. Department of Agriculture, Economic Research Service

region. Regional food systems are often characterised by local sourcing, shorter supply chains, and a focus on promoting regional food identity, sustainability, and economic development within the designated area.¹²⁶

Benefits of a local food system

Strengthening Local Economies and Wellbeing

- 2.70 The bolstering of local food production holds promise for strengthening local supply chains by fostering direct connections between households, businesses, and producers, thereby strengthening local economies through the retention of skills, capital, and employment opportunities.¹²⁷ Emphasising a 'farm to fork' approach, local food systems minimise intermediary handling, enhancing product freshness while reducing food miles and ensuring a greater proportion of revenue remains within the local economy.¹²⁸ Additionally, local producers serve as reliable points of contact responsive to community needs.¹²⁹ A change in the perception of jobs in the food sector for youth and job seekers could also stimulate positive change within the local food system. There are a variety of jobs within the food systems such as branding, engineering, product development and sales, which may not appear to be obvious for those not currently working in the food and drink sector. Through investing in the local food system and food production, there is potential to provide greater job opportunities for young people and potential for future economic growth and development within the region.
- 2.71 Local food initiatives like Community Supported Agriculture (CSA) can contribute to access to nutritious food, community cohesion, and wellbeing.¹³⁰ Furthermore, prioritising locally sourced seasonal foods can align public procurement practices with climate change commitments while promoting environmental and social benefits.¹³¹ Evidence suggests that local and regional food systems not only stimulate economic activity but also encourage the consumption of unprocessed foods, benefiting both rural and urban communities.¹³² These food systems also have the potential to facilitate community development by fostering connections between urban and rural populations.¹³³

¹²⁶ Feenstra, G., Campbell, D.C. (2013). Local and Regional Food Systems. In: Thompson, P., Kaplan, D. (eds) Encyclopaedia of Food and Agricultural Ethics. Springer, Dordrecht. Available at: [Local and Regional Food Systems | SpringerLink](#)

¹²⁷ Swansea Food Partnership (2023) Feasibility study: mapping local produce & shortening supply chains. Available at: [Swansea Food Partnership - Swansea](#)

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ Verfuert C. and A. Sanderson Bellamy (2022) Accessible Veg: A pilot project exploring the barriers and benefits to CSA memberships for food-insecure households. Available at: [Accessible-Veg-for-web-report.pdf \(cast.ac.uk\)](#)

¹³¹ Peas Please (2021) Feeding Our Future. Available at: [Peas-Please-School-Food-Report-2021.pdf \(foodsensewales.org.uk\)](#)

¹³² Welsh Parliament (2022) The Farming Sector in Wales: Research Briefing. Available at: [22-47-farming-sector-in-wales.pdf \(senedd.wales\)](#)

¹³³ Ibid.

Promoting Food Security

- 2.72 Moreover, a consolidated food system poses risks of rapid food contamination spread, while diffuse local and regional food systems offer greater diversification against outbreaks, though they may entail more challenging food safety oversight.¹³⁴ Additionally, local and regional food systems address a form of food security by enhancing adaptability to climate change, ensuring continued food production despite changing environmental conditions.¹³⁵

Risks of strengthening local food systems

- 2.73 There are some risks associated with local food systems, which should be considered when developing the food system for North Wales. These might include a reduction in choice and over-reliance on certain food groups, vulnerability to climate and weather shocks and dependence on small-scale producers to maintain food supply – with the risks of higher costs for basic food supplies and potential for inconsistency in quality, availability and timeliness of supply. There is also a risk that producers may settle for lower value contracts with the public sector or by selling food to the general public as opposed to higher value contracts exporting internationally.
- 2.74 Food pricing and affordability is of particular significance in North Wales given the notable increase in food insecurity and reliance on food banks within the region. If there were to be a greater focus on localising supply chains and supporting local food producers and businesses, food still needs to be affordable to the local population and those on lower incomes. There is a risk that through focusing on localising food systems, food becomes increasingly unaffordable for vulnerable populations, potentially exacerbating food poverty and subsequently creating a greater class divide. There therefore needs to be measures in place to ensure that local food is affordable for the local community, perhaps through integration into the public sector or sold at subsidised rates.
- 2.75 If North Wales were to move into a more localised food system, there is a risk of increased food shortages and supply chain issues due to a lesser variety of foods available, due to the cooler climates and weather conditions in the region. There would potentially need to be increased investment into polytunnels and greenhouse to provide crops that are typically grown in warmer climates such as tomatoes, peppers and aubergines. While there is potential for economic growth within the region, through potential opportunities to grow more diverse crop varieties and explore different markets, there is also an element of risk due to the lack of certainty around commercial viability. For example, there is some potential to explore novel cropping and trial experimental cropping such as the production of lupins for

¹³⁴ Ibid.

¹³⁵ Ibid.

animal protein and alternative legume production¹³⁶¹³⁷. However, there is an element of risk in trialling these crops as their commercial success is still somewhat unexplored. An investment into experimental cropping would also be reliant on behaviour change and a willingness to adapt to different eating habits. There are also some limitations in replicating this at scale across the region as there is a potential lack of buy- in and investment needed to make a considerable impact. This therefore fails to address the potential risk of food shortages and does not provide a solid solution to food insecurity or food poverty.

- 2.76 As such, while strengthening local food systems has advantages, policymakers must carefully balance these benefits with the potential risks to ensure a resilient and sustainable food supply. Despite some risks such as the forementioned reduction in choice and an increased dependence on fewer local suppliers, there is potential for greater economic development through investment into food businesses and food related infrastructure that will strengthen the local and regional economy.

142As seen by Hodemedods in Suffolk who produce pulses, seed, grain and flour. Further information at: [Hodmedod's British Pulses and Grains \(hodmedods.co.uk\)](http://hodmedods.co.uk)

¹³⁷ Aberystwyth University (2015) 'Superfeed': lupin will provide soya-grade protein from UK Farms. Available at: ['Superfeed' lupin will provide soya-grade protein from UK farms - Aberystwyth University](#)

3. Research findings

- 3.1 This section builds on the literature review and presents the findings of the fieldwork phase of the research. This phase engaged a range of stakeholders across the supply chain via qualitative interviews and five virtual workshops involving different stakeholder groups including educational institutions and further education colleges, third sector and community groups, growers, public sector representatives, farmers and primary producers.
- 3.2 The section identifies strengths of the food system in North Wales as the region looks towards a more resilient balance between local and international supply chains. This is followed by an assessment of the barriers to creation of a more resilient regional food system.

Strengths of the food system in North Wales

World-leading expertise across critical technical areas

- 3.3 North Wales hosts a remarkable array of institutions leading critical thinking, research, development and implementation related to food system development. The box below summarises some of the work of these institutions, though it is not an exhaustive list. As such, there is significant potential to further develop R&D capabilities, support knowledge transfer, innovation and enterprise growth among agriculture, food and drink manufacturing businesses in the region.

- **Bangor University** – research expertise across food systems including agriculture and forestry, and related centres including the Digital Signal Processing (DSP) Centre, the Smart Energy Efficiency Centre (SEEC) and the Centre for Environmental Biotechnology.
- **Wrexham University** – expertise including Nutrition and Dietetics, and also hosts of Horticulture Wales and TechTyfu
- **Grŵp Llandrillo Menai** – provides technical and practical training in Agriculture & Precision Agriculture, Animal Care and supports businesses with food product development, accreditation such as SALSA and BRCGS, labelling and packaging through the Food Technology centre.
- **Coleg Cambria** offers technical and practical training in Agriculture & Precision Agriculture, Animal Care & Management and Food Manufacturing, and are constructing a new Net Zero Farming Centre at their Llysfasi campus.
- **Advanced Manufacturing Research Centre (AMRC Cymru)** – Engineers use digital twins and robotics in the agriculture, food and drink sectors to support production and supply chain efficiency
- **Aberystwyth University / AberInnovation** provides world-leading facilities and expertise for the biotechnology, agri-tech, and food and

drink sectors around novel and traditional crop breeding, enhancing nutritional value and reducing supply chain waste

- **Henbant Farm** delivers courses on regenerative agriculture, modern horticultural production and agroforestry on a 40 acre site near Caernarfon as well as supplying food to residents
- **Farming Connect** is a comprehensive programme funded by Welsh Government that supports the development of a more professional, profitable, and resilient land-based sector in North Wales. It offers an integrated range of services, including knowledge transfer, innovation, and advisory support. Through one-to-one advice, courses, demonstration sites and mentoring it provides fully funded or subsidised services to thousands of farmers and foresters.

3.4 Geographically, with the connection of the A55 corridor, the North Wales food system is well placed to strengthen collaboration with the North West of England, which has already been established in other sectors, and with mid-Wales to the south. This offers several opportunities to stimulate external market demand which will be explored further in Section 6.

Institutional support for more regional working on agri-food issues

3.5 The move towards a regional approach to tackle the challenges faced by the food system in North Wales has been viewed as a positive development by stakeholders. Increased collaboration between the six local authorities of North Wales, driven by respective Food Coordinators and bi-monthly regional roundtable events, as well as the development of Regional Partnership Boards (RPBs) have helped drive this forward. Stakeholders referenced increased data sharing between public sector organisations, as well as greater proactiveness in promoting food in the region, as demonstrated by the Food Poverty Alliance led by Flintshire County Council, and the efforts by Gwynedd and Ynys Môn councils to strengthen the ties between language and tradition with food.

3.6 Active involvement of public bodies in addressing community and food-related concerns impacts both the availability of resources and citizen engagement.¹³⁸ As a result, adopting a holistic government food policy framework supporting sustainability, health, waste reduction, agricultural diversity, small-scale producers, trade standards, and facilitating a just transition can empower local food systems. This approach may include integrating food system education into the curriculum, providing foundational knowledge for sustainable and equitable food practices.¹³⁹

Expertise in production and export of livestock

¹³⁸ Global Food Security. The role of the UK food system in meeting global agreements. Available at: [The role of the UK food system in meeting global agreements – Global Food Security](#)

¹³⁹ Ibid.

3.7 As a predominantly rural area, North Wales also has a rich history of grass-fed beef and dairy production, delivering environmental and health benefits. There has also been an inherent focus on sustainability due to the rural and, often mountainous, landscape which has led to the continuation of traditional farming methods due to some terrain being harder to access. Dairy has also played a large role in the food and farming landscape, with a number of significant creameries and dairies located throughout the region. New dairy-based businesses and initiatives are also developing throughout the region, including the development of the ‘Welsh Sheep Dairy Centre’ which is due to open in Gwynedd which is discussed later in the report.¹⁴⁰

3.8 The North Wales region also has a strong history of livestock exports, particularly catering for the English and European markets.

History of arable and horticulture in the region

3.9 Arable crops produced in North Wales include potatoes, apples, wheat, barley, maize and oats, all of which are well-suited to the cooler, wetter climate. Barley and maize produced in North Wales are predominantly used for animal feed for livestock, while historically, arable fields in North Wales supported a wide range of ‘arable weeds’, such as poppies, corn marigolds and corncockles¹⁴¹

3.10 Although there has been an overall trend of decline in horticulture and arable production, there has been a growing interest in novel cropping and horticulture in recent years.

3.11 Similar to other parts of Wales, North Wales has a rich history of apple production. While there has been a traditional decline in local production due to competing land uses and a growing reliance on imported apple varieties, there has been a recent resurgence in apple orchards throughout North Wales, with community groups planting rediscovered apple varieties or regenerating older orchards. In recent years there has been over 1,500 apple trees planted across North Wales.¹⁴² This offers opportunities when considering the current redevelopment of school menus towards utilising more local produce.

Free school meals

3.12 Welsh Government has made free school meals universal and available to all primary school children, and this has now been rolled out across North Wales. There have been a range of initiatives to promote the usage of regional and local products in school meals such as Larder Cymru¹⁴³. Local food suppliers such as Harlech and Castell Howell have also prioritised

¹⁴⁰ Grŵp Llandrillo Menai, Multi-million pound investment in future of Coleg Glynllifon.

Available at: [Multi-million pound investment in future of... | Grŵp Llandrillo Menai \(gllm.ac.uk\)](#)

¹⁴¹ North Wales Wildlife Trust (2022) Arable fields. Available at: [Arable fields | North Wales Wildlife Trust](#)

¹⁴² Nation Cymru (2018) Forgotten fruit – The Welsh apple renaissance. Available at:

[Forgotten fruit - The Welsh apple renaissance \(nation.cymru\)](#)

¹⁴³ Larder Cymru. Available at: [Home | Larder Cymru](#)

working with local suppliers and businesses where possible. This has helped lessen food miles and support the local economy.¹⁴⁴

- 3.13 The economic, social, environmental and health opportunities surrounding the rollout of universal free school meals are explored further in Section 4.

Community food initiatives developing across the region

- 3.14 The strong sense of community and identity that exists in North Wales is also seen as a major strength of the region, with multiple community-based 'on the ground' food initiatives seeking to address issues ranging from food poverty to food literacy (See Section 3 for more detail). Furthermore, stakeholders stated that there is a genuine desire among consumers to buy local due to the connection with the community. However, this can be overridden by financial constraints.

- 3.15 The success and scale of local food systems and community food initiatives (CFIs) depend significantly on factors such as financial and non-financial resources, available land, and citizen engagement.¹⁴⁵

- 3.16 To enable local food systems to flourish involves fostering greater collaboration across sectors and organisations, including exploring supply chain opportunities for food banks.¹⁴⁶ There must be a focus on community efforts for food sharing and collaborative exploration of changes to address health, sustainability, and access issues. This includes initiatives such as community growing, sharing, composting schemes and through support from Local Food Partnerships.¹⁴⁷

Quality of produce in the region

- 3.17 The overall quality of produce in North Wales was cited as a major asset, with tourists frequently looking to purchase local produce due to its reputation and taste. This is evidenced by the number of Protected Designation of Origin (PDO)¹⁴⁸ status foods in North Wales, such as Anglesey Sea Salt (Halen Mon), the Denbigh Plum and Conwy Mussels. There should be continued efforts to promote demand for this local produce, both among the local population in North Wales, as well as the wider export market.

- 3.18 Although not unique to North Wales, the high standards surrounding the quality and safety of food produced was also seen as a strength. Similarly, Dolwen Lamb and Beef from Denbighshire has been awarded PGI

¹⁴⁴ Food and Drink Wales (2024) Calls for More Local Produce in School Meals. Available at: [Calls for More Local Produce in School Meals - WFD \(welshfoodanddrink.wales\)](https://www.welshfoodanddrink.wales/)

¹⁴⁵ Food and Drink Wales (2023) Community Food Strategy.

¹⁴⁶ Trefnu Cymunedol Cymru (2022) TCC Cost-of-Living Summit Summary report (issues, solutions, pledges). Available at: [Cost of Living Summit \(tcc-wales.org.uk\)](https://www.tcc-wales.org.uk/)

¹⁴⁷ Global Food Security. The role of the UK food system in meeting global agreements. Available at: [The role of the UK food system in meeting global agreements – Global Food Security](https://www.globalfoodsecurity.org.uk/)

¹⁴⁷ Ibid.

¹⁴⁸ PDO indicates the product has been produced, processed and prepared in a specific region, which gives the food or drink its unique taste or distinctive quality.

(Protected Geographic Indication) status. There is also a growing number of producers who are diversifying into novel crops such as vineyards and fungi as highlighted in the previous section.

Access to Project Helix and other strategic agri-food initiatives

- 3.19 Other support includes Welsh Government's Project Helix which provides a pan- Wales strategic initiative delivered by three partners under the Food Innovation Wales Brand - Food Centre Mid-West Wales (part of Ceredigion County Council), the Food Technology Centre in North Wales (part of Grŵp Llandrillo Menai) and ZERO2FIVE Food Industry Centre in South Wales (part of Cardiff Metropolitan University). Project Helix has successfully supported the development and launch of 2082 new products. The projects aim to deliver practical knowledge transfer activities, supporting Welsh companies to reformulate innovative food and drink products.¹⁴⁹
- 3.20 The North Wales Growth Deal delivers five projects supporting the agri-food sectors:
- Glynllifon Rural Economy Hub: The Glynllifon Rural Economy Hub aims to create a world-class Rural Economy Hub on the Glynllifon estate near Caernarfon. It will provide regional start-ups or expanding businesses with facilities such as business units and an on-site knowledge centre for a 3-5 year period. This will provide support to food start-ups through technical and development advice, aiding them to scale up and move into larger units, subsequently moving on to a larger dedicated manufacturing space off site once they have emerged from the incubator phase. The project aims to strengthen opportunities for collaboration, supply chain development and growth within the expanding Welsh food and drink sector. This project is led by Grŵp Llandrillo Menai.
 - Academi Croeso Cymru: Academi Croeso Cymru is a network of training centres across North Wales building regional skills in tourism and hospitality, including establishing training kitchens and providing support to local businesses and schools. The initiative is led by Grŵp Llandrillo Menai.
 - The Centre for Environmental Biotechnology, University of Bangor: The Centre for Environmental Biotechnology is a scale-up facility supporting development of naturally occurring enzymes into products that support less environmentally harmful industrial processes. This includes leading research into food production and packaging linking with on-going work in BioComposites at the University.
 - Smart Local Energy: The Smart Local Energy project aims to support businesses and organisations across North Wales – including agri-food businesses – to generate renewable energy and improve their

¹⁴⁹ Food Innovation Wales (2023) Project Helix Overview. Available at: [KK17-Food-Innovation-Wales-Report-2023_ENG_low-res.pdf \(foodinnovation.wales\)](#)

energy efficiency by stimulating investment, boosting capacity and strengthening local energy ownership.

- Hydrogen Hubs: The Growth Deal is investing in two hydrogen production facilities in North Wales - one based in Holyhead, and the other in North East Wales enabling demand and supporting a reliance away from fossil fuels. Hydrogen has potential to help decarbonisation of food and farming through use of the fuel in heating and cooking, and as a replacement fuel for transport.

Access to multiple funding and support services through Welsh Government initiatives

- 3.21 Other business support in the region includes Welsh Government's Business Wales service, Cywain, Clusters, Innovation and Technology, Investor Ready, Scale-up, Market Insight (data), Trade Development, Foodservice, Export support and Food and Drink Skills Wales programmes. The overall support for the food sector from Welsh Government is captured in the figure below.
- 3.22 While long-term funding for agriculture and horticulture is under review through on-going consultation around the Sustainable Farming Scheme, funding is typically available through the following schemes:
- Basic Payment Scheme: An annual payment for farmers who follow good environmental practices.¹⁵⁰
 - Agriculture Diversification Scheme: A capital grant scheme encouraging the establishment of new agricultural enterprises.¹⁵¹
 - Growing for the Environment: Financial assistance for growing and using crops that improve a farm's environmental status.¹⁵²
 - Habitat Wales Scheme: An area-based agri-environment scheme available to eligible farmers.¹⁵³
 - Horticulture Development Scheme: Capital grants for existing commercial horticultural producers.¹⁵⁴
 - Woodland Investment Grant: Support for creating and enhancing woodlands that may become part of the National Forest¹⁵⁵. Also

¹⁵⁰ UK Government (2023) Basic Payment Scheme Available at: [Basic Payment Scheme - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/basic-payment-scheme)

¹⁵¹ Welsh Government (2022) Agriculture Diversification Scheme. Available at: [Agriculture Diversification Scheme: rules booklet \(window 1\) \[HTML\] | GOV.WALES](https://gov.wales/agriculture-diversification-scheme-rules-booklet-window-1)

¹⁵² Welsh Government (2024) Growing for the Environment. Available at: [Growing for the environment: using RPW Online to apply | GOV.WALES](https://gov.wales/growing-for-the-environment-using-rpw-online-to-apply)

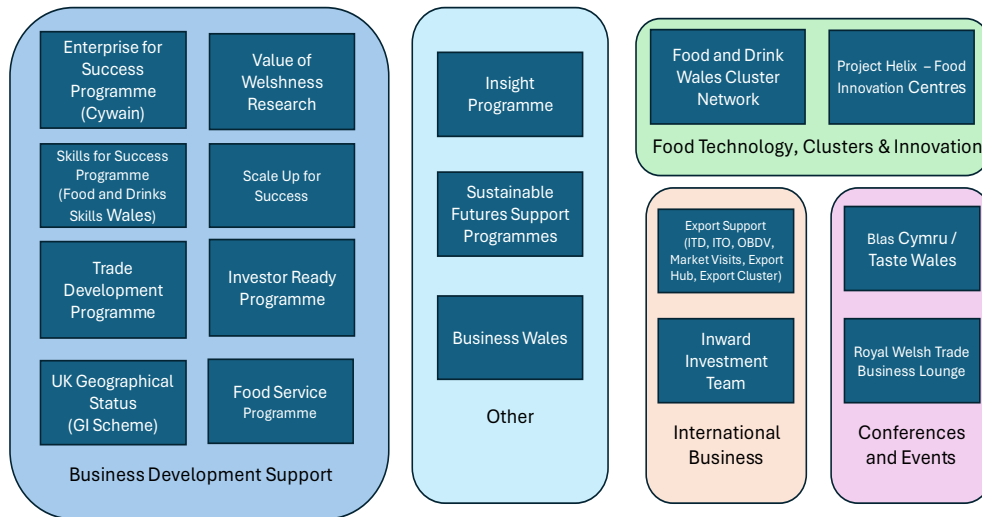
¹⁵³ Welsh Government (2023) Habitat Scheme Wales. Available at: [Habitat Wales Scheme: outline \[HTML\] | GOV.WALES](https://gov.wales/habitat-wales-scheme-outline)

¹⁵⁴ Welsh Government (2023) Horticulture Development Scheme Available at: [Horticulture Development Scheme: using RPW online to complete your grant claim form | GOV.WALES](https://gov.wales/horticulture-development-scheme-using-rpw-online-to-complete-your-grant-claim-form)

¹⁵⁵ Welsh Government (2022) National Forest for Wales- The Woodland Investment Grant. Available at: [National Forest for Wales – The Woodland Investment Grant \(Pilot 2021\): rules booklet | GOV.WALES](https://gov.wales/national-forest-for-wales-the-woodland-investment-grant-pilot-2021-rules-booklet)

Coetiroedd Bach (Tiny Forests): Financial support to create tiny forests that could become part of the National Forest.¹⁵⁶

Figure 4.1 – Overview of Welsh Government Support for the Food and Drink Sector in North Wales



3.23 The Welsh Government has a crucial role in supporting sustainable food production through policy development and procurement practices. This requires clear investment and regional leadership, education and peer knowledge sharing. Additionally, there is a need to facilitate farmers and growers' access to land, as existing planning regulations often favour larger farms, impeding the establishment of small and micro-holdings.¹⁵⁷

Community Supported Agriculture (CSA)

3.24 There is a growing interest in CSA schemes, necessitating exploration of best practices to support engagement. The most recent data on CSAs indicated that there were at least ten CSAs based in Wales, primarily horticulture enterprises for fruit and veg production, as well as one centred on beef production and one on wheat production for a community owned bakery.¹⁵⁸ As of the writing of this report five CSAs in North Wales were identified including Henbant Permaculture and Tyddyn Teg in

¹⁵⁶ Welsh Government (2023) Coetiroedd Bach (Tiny Forests). Available at: [Coetiroedd Bach \(Tiny Forests\) | GOV.WALES](https://gov.wales/coetiroedd-bach)

¹⁵⁷ ¹⁵⁷ Ambition North Wales (2023) Stakeholder interviews May 2023

¹⁵⁸ Community Supported Agriculture. Available at: <https://communitysupportedagriculture.org.uk/>

Gwynedd¹⁵⁹¹⁶⁰, Gerlan Bach CSA in Conwy¹⁶¹ and FlintShare and Cae Rhug Holistic Farm in Flintshire.¹⁶²¹⁶³

- 3.25 Ensuring financial sustainability of CSAs is paramount. Agricultural and horticultural producers often face high up front set up costs which take time to recoup.¹⁶⁴ CSA schemes are typically supported through membership models which enable financial resilience through members who pay regular fixed payments which help mitigate the risk of cash flow issues and enable effective financial planning. CSAs commonly have multiple revenue streams including from public sector or charity grant funding, community fundraising and donations as well as in kind support, through the provision of time, skills and less commonly, credit.¹⁶⁵
- 3.26 Alternative models such as solidarity donations, income based sliding scale memberships or volunteer work in exchange for discounts/free veg boxes could enhance accessibility for lower income households.¹⁶⁶ Opportunities exist for collaboration with local food charities and health providers to subsidise local veg box schemes, although building trust in funding streams and minimising bureaucracy is imperative.¹⁶⁷

Best practice examples

Wales

- 3.27 One example of best practice in Wales highlighted through our fieldwork was the recently launched food growing project at Wrexham Maelor Hospital.¹⁶⁸ The project has brought together 25 volunteers from the Wrexham Community Gardeners group¹⁶⁹ and aims to engage local residents and patients to grow food on a small scale, seasonal basis to supply the hospital as well as to enhance the green spaces in the areas surrounding the hospital.
- 3.28 Well- Fed is a social business set up between Flintshire County Council and Clwyd Alyn Housing Association and the social enterprise Can Cook Well

¹⁵⁹ Tyddyn Teg. Available at: [Tyddyn Teg - Tyddyn Teg](#)

¹⁶⁰ Henbant Permaculture. Available at: [Henbant Permaculture | farm | Henbant Permaculture, Caernarfon, UK](#)

¹⁶¹ Gerlan Bach CSA, Available at: [Gerlan Bach CSA \(communitysupportedagriculture.org.uk\)](#)

¹⁶² Flintshire Community Garden. Available at: [Copy of Home - FlintShare - community garden in North Wales](#)

¹⁶³ Cae Rhug Holistic Farm, Available at: [Cae Rhug Farm | Growing wellbeing through art and nature](#)

¹⁶⁴ Community Support Agriculture, (2020) Evaluation Report. Available at: [communitysupportedagriculture.org.uk](#)

¹⁶⁵ Ibid

¹⁶⁶ Food Sense Wales (2022) Accessible Veg Report. Available at: [Accessible-Veg-Report-July-2022.pdf \(foodsensewales.org.uk\)](#)

¹⁶⁷ Verfuert C. and A. Sanderson Bellamy (2022) Accessible Veg: A pilot project exploring the barriers and benefits to CSA memberships for food-insecure households. Available at: [Accessible-Veg-for-web-report.pdf \(cast.ac.uk\)](#)

¹⁶⁸ Further information available at: [Community group creating welcome for all at Wrexham Hospital | The Leader \(leaderlive.co.uk\)](#)

¹⁶⁹ Further information at:

[Wrexham Community Gardeners | community gardening group](#)

Fed was created in 2019 and aims to provide commercial catering services to nurseries, schools and residential schemes in North Wales. Services include, Meals on Wheels, A Mobile Food Shop, School Catering and Older People and Residential schemes. They have distributed over 60,000 meals to vulnerable households and have recently started operating a 'farm to table supply chain' where they work with local farms to create fresh and nutritious meals for all. They have also recently implemented food lockers where the public can pick up healthy food. This project is supported by the Backing Local Firms Fund project by Welsh Government. Other projects supported by this scheme are Larder Cymru and Tech Tyfu delivered by Mentor Mon.^{170,171,172}

- 3.29 Another example of best practice is through the development of a Sheep dairy centre located at Coleg Glynllifon, funded by Welsh Government and Grŵp Llandrillo Menai.¹⁷³ The project is aiming to develop the knowledge base around sheep dairy and explore opportunities that farmers could use to diversify their income streams and develop greater financial resilience. The proposals, which have since been approved, could help promote knowledge within the agricultural sector and demonstrate the benefits of sustainable sheep milk marketing in Wales with the potential for up to 100 family farms to be engaged in the project. The plans would lead to the development of a Welsh Sheep Centre – described as an “asset for North Wales” which would have the capacity to process up to 300 ewes along with a separate cattle dairy project at the site.¹⁷⁴
- 3.30 Rhug Estate¹⁷⁵ was highlighted as an example of a sustainable local producer as it is seeking to establish a supply chain for organic poultry which could be scaled and applied to other small family farms. Alongside the focus on organic supply chains Rhug is also seeking to embed sustainable practices into its production to meet the needs of customers who are interested in sourcing sustainably produced chicken, including through calculating the carbon footprint of its production to build an evidence base around more sustainable practices.
- 3.31 Direct to Consumer (DTC) platforms and activities can expand producer markets, stabilise rural retail businesses and improve rural food access. Effective DTC initiatives could include veg box schemes, vending machines, farmers' markets, food halls, food hubs, farmers' cooperatives, meat boxes, share schemes, such as the Cow Tan scheme to help purchase grazing cows, gate sales and community supported agriculture.
- 3.32 One example of best practice to increase access to locally produced food through DTC marketing in North Wales was the provision of self-serve

¹⁷⁰ Further Information at: [Eat Well – Cook Easy - Can Cook](#)

¹⁷¹ Further Information at: [Home | Larder Cymru](#)

¹⁷² Further Information at: [Home - Tech Tyfu](#)

¹⁷³ Further Information at: [Plans for sheep milking and cattle dairy project approved for historic Gwynedd site - Herald.Wales](#)

¹⁷⁴ Ibid.

¹⁷⁵ Further information at: [Our Story | Rhug Estate](#)

vending machines for milk. Llaethdy Llwyn Banc Dairy has offered a self-serve vending machine for its milk since November 2021.¹⁷⁶ Additionally these machines encourage the reuse of containers which can help support a reduction in food related waste. DTC models such as the Llangollen Food Assembly, which ran a hybrid online purchase / weekly pick-up from a community hub from 2015-2018, could also be considered.¹⁷⁷

- 3.33 Additionally the work of Our Food 1200¹⁷⁸ in the Bannau Brycheiniog National Park was highlighted as an example of best practice in helping to address the mismatch between land and growers through linking them up to support more local growing in the area. The initiative aimed secure 1200 acres of land in 3-10 acre plots across Bannau Brycheiniog and Powys for modern, regenerative fruit and vegetable farming for local markets. Our Food 1200 is supported by Social Farms and Gardens and Powys County Council. Social Farms and Gardens has also received backing from the Local Firms Fund Project by Welsh Government.
- 3.34 Wholesaler Castell Howell has also played a large role in transforming potential routes to markets for growers in Wales. They have specifically worked on two projects that have supported growers across Wales. They have been developing a Welsh Veg Project which aims to reduce on frozen vegetable imports. They have also collaborated with Welsh small-scale growers, offering them opportunity to provide produce for school meals across Wales. They are seeking new and innovative ways to local supply chains and support smaller growers and producers.¹⁷⁹
- 3.35 The Food Cardiff Programme¹⁸⁰ was identified as a successful example of an initiative to drive a cross sector approach to addressing food security in Wales in order to try and alleviate food poverty. Food Cardiff was established in 2014 as one of the founding Sustainable Food Places in the UK. Food Cardiff is part of Food Sense Wales, which aims to influence how food is produced and consumed in Wales, ensuring that sustainable food, farming and fisheries are at the heart of a just, connected and prosperous food system.

Scotland

- 3.36 There are many local authorities in the UK which are now adopting a Community Wealth Building (CWB) approach and according to East Ayrshire, the first CWB council in Scotland¹⁸¹, not only has it helped them improve the quality of school meals but buying fresh local produces has also

¹⁷⁶ Further information at: [We visited the Denbighshire farm with its own milkshake vending machine - North Wales Live \(dailypost.co.uk\)](https://www.dailypost.co.uk/news/wales/2021/11/11/we-visited-the-denbighshire-farm-with-its-own-milkshake-vending-machine-north-wales-live/)

¹⁷⁷ Further information at: [Rhannu Bwyd Llangollen Food Share – Ensuring that no-one goes hungry.](https://www.rhannu.com/news/rhannu-bwyd-llangollen-food-share-ensuring-that-no-one-goes-hungry/)

¹⁷⁸ Further Information at: [our-food.org](https://www.our-food.org/)

¹⁷⁹ Further Information at: [Home - Castell Howell \(castellhowellfoods.co.uk\)](https://www.castellhowellfoods.co.uk/)

¹⁸⁰ Further information at: [Home | Food Cardiff](https://www.foodcardiff.org/)

¹⁸¹ Further Information at: [Community Wealth Building | Ayrshire Growth Deal](https://www.ayrshiregrowthdeal.co.uk/)

generated a positive impact on local businesses and significantly reduced their carbon footprint.¹⁸²

- 3.37 Food for Life Scotland¹⁸³ is a Scottish Government funded programme which works with local authorities across Scotland to improve the quality of school meals through the certification scheme Food for Life Served Here (FFLSH). FFLSH rewards caterers who serve freshly prepared, sustainable and local food. Currently 17 of the 32 local authorities in Scotland hold the FFLSH award and are demonstrating best practice in promoting the enjoyment of locally sourced and seasonal vegetables and as such are encouraging children to make healthier food choices.

United States

- 3.38 There are currently over 4,000 CSAs in the United States.¹⁸⁴ Community-Supported Agriculture (CSA) involves consumers purchasing a "share" of on-farm produce from a farmer early in the year and receiving weekly deliveries of fresh produce throughout the growing season. Consumers opt for CSAs to support local farmers, access fresher food, and learn about the farming process. CSA models have evolved, with some not requiring advance share purchases or allowing customised orders. Some CSAs offer the opportunity for low-income households to contribute time working on the farm as an option for buying food, instead of cash purchases.
- 3.39 The United States Department of Agriculture's (USDA) Farm-to-School programmes¹⁸⁵ aim to boost the demand for locally produced food. Recent legislation allocated \$40 million over eight years to assist schools and non-profit organisations in investing in infrastructure and logistics for purchasing healthy food from local farmers. Additionally, the USDA adjusted procurement procedures to permit schools to prioritise local farmers, a practice previously prohibited.

Barriers to a sustainable, resilient food system in North Wales

- 3.40 Despite an overall desire among stakeholders to move towards a more sustainable, resilient food system in North Wales, stakeholders identified several significant barriers which are outlined below.

Lack of overarching vision and senior level buy-in

- 3.41 While there is recognition of the improvements made through the regional approach to managing the food system (as referenced above), stakeholders were still critical of what they perceive to be limited buy-in to an overarching vision surrounding the future of food in North Wales across some public sector organisations. Many felt that promoting locally sourced and produced food is still not a high enough issue on the agenda, as evidenced by the small budgets allocated to meals in schools and hospitals. It was also

¹⁸² Further information at: [East Ayrshire \(soilassociation.org\)](http://soilassociation.org)

¹⁸³ Further information available at: [FFL Scotland - Food for Life](http://fflscotland.org)

¹⁸⁴ Available at: [Community Supported Agriculture | National Agricultural Library \(usda.gov\)](http://communitysupportedagriculture.org)

¹⁸⁵ Available at: [The Patrick Leahy Farm to School Program | Food and Nutrition Service \(usda.gov\)](http://farmtoschoolprogram.org)

claimed the lack of reference to food among PSB well-being plans is symptomatic of this issue. Similarly, the relative absence of food in both regional and local energy policy, such as the North Wales Regional Area Energy Plan (where food is only referenced twice) or Local Area Energy Plans, demonstrates a lack of coherence and appreciation of the significant role stakeholders in the food sector has to play in relation to reducing carbon emissions, as well as renewable energy generation. This is a particular concern given that energy consumption in food manufacturing, through various processing such as water usage, waste management and refrigeration, significantly contributes to greenhouse gas emissions and climate change. Similarly, there is also a lack of analysis within local authority corporate or local development plans respectively surrounding grade 1-3 land and its potential viability in relation to crop production – something which could help address issues around production capacity.

- 3.42 All of this demonstrates an absence of leadership and critical thinking around food-related issues ranging from sector energy requirements, through to land suitability for crops, production, transport and distribution.
- 3.43 Stakeholders noted that there is still significant resistance to change in the food sector despite the implications of wider risks and opportunities noted in Section 2, and as such there is a need to ensure reforms are instituted steadily. There was particular tension from those who felt that farmers and food producers are currently not receiving the correct level of support or rewarded for the work they are putting in. This was in part centred around the Sustainable Farming Scheme and some resistance from communities who felt that sustainability measures would be forced onto them rather than understanding the needs and wants of farming communities. There was also concern expressed surrounding the push towards horticulture. Stakeholders noted that farmers lack experience in this area and are aware of the perceived risk of moving from livestock farming to horticulture. This was due to the unpredictability of potential markets, and the fear of cheaper European imports dominating the market. This could also be linked to potential labour shortages and potential challenges that are expected with the effects of climate change such as increased flooding. However, this position was in direct contrast to the urges by many others in the North Wales food system for urgent and radical action. As long as there is division on the most appropriate way forward for food in North Wales, there will remain challenges when seeking to create a more sustainable food system.

Procurement rules and regulations

- 3.44 The potential lever of public procurement as a means of driving forward efforts to create a stronger local food system in North Wales has been a major focus of this research. However, as things stand, current standards and procedures around public procurement present a major barrier. Limited budgets, combined with a criterion weighted towards the most economically advantageous tender (MEAT), constrains the ability of the public sector to procure local produce, which despite being more nutritious and healthier, is often the more expensive option. This is exacerbated by the current

purchasing laws which prevents stipulation on where the product is from. Additionally, the current lack of weighting in the system given to environmental benefits, such as reduced emissions, as well as community and social benefits, disadvantages local producers. While the rationale for rigorous quality standards from the public sector is clear, it can also present challenges for producers who do not have the infrastructure to meet the requirements. Particularly as some micro producers may not have the third-party accreditations required such as SALSA and BRCGS. This is despite the fact that support is available for businesses seeking to achieve accreditation. The length of contract also presents an issue, with producers seeking longer term contracts to provide economic security, while it may not be in the interest of the public sector, so as to avoid overpaying for produce if the market price fluctuates. Examples were given by stakeholders who suggested that those working in procurement sectors had previously attempted to use local producers within public procurement contracts, but smaller companies had dissolved due to financial constraints. In the authority of Bath and North East Somerset (BANES) there have been great successes in the localisation of public procurement contracts. In 2016, Food Procurement Officers delivered a food strategy and supply schools fresh food, shifting away from single source suppliers, piloting what has become known as 'Dynamic Food Procurement' suppliers to join the procurement system at any time and permits businesses to tender without needing to fulfil the entire brief.¹⁸⁶

- 3.45 Conversations with stakeholders in North Wales, indicated that there was potential to explore a similar model within the North Wales context. However, some stakeholders have called into question the suitability of public procurement as a solution given issues around scalability, with only a limited number of growers in North Wales able to produce at the scale required for the public sector. Availability of produce to supply the public sector was also raised as a challenge from a wholesale perspective. Further concerns included reliability, specifically the ability of local producers to consistently provide for the public sector when they encounter challenges such as poor harvests. From the demand side, it was noted that as a single buyer, the public sector is limited in its ability to drive change. This is exacerbated by the relatively high costs of local produce, such as Welsh lamb and cheese, when compared with alternatives.
- 3.46 The rollout of universal free school meals offers several potential benefits, including an opportunity to increase the level of demand for local food within

¹⁸⁶ Centre for Rural Policy Research and the University of Exeter (2022) Public Procurement of Food in the South West: Opportunities and barriers to relocating food supply. Available at: [Exeter report final copy v2](#)

the public sector. Under the 'Our Backing Local Firms Fund food projects'.¹⁸⁷ crucial organisations within the region, such as Menter Mon¹⁸⁸, Larder Cymru¹⁸⁹, Harlech¹⁹⁰ and Roberts of Port Dinorwic¹⁹¹ have already been collaborating with local authorities to review school menus, seeking to integrate more local produce onto the public plate.

- 3.47 Despite this, there is no guarantee that public procurement will lead to direct benefits for local farmers and producers. Some stakeholders suggested that using a local distributor to bring together multiple small-scale producers could be a potential way of ensuring that local producers can be used within the public sector. However, it can be seen that this could potentially create some challenges around consistency and availability of products.

Multiple barriers to scaling horticultural production

- 3.48 The North Wales region, similar to the rest of Wales, suffers from a deficit between the amount of fruit and vegetables it produces compared to what it consumes. One stakeholder noted that if you grow 20 acres of vegetables in the region, then you one of the 26 largest vegetable producers in Wales.

- 3.49 Despite a desire from stakeholders to boost horticultural production and pilots in North Wales and elsewhere testing supply into public bodies, there are only a few horticultural enterprises operating across North Wales to help reduce the deficit. Pathways to enter the sector by building experience in allotments or community growing schemes are limited by legislation preventing the sale of local produce grown in allotments. Start-ups are thwarted by limited access to land, funding thresholds requiring 5ha of production, and regulations preventing housing on sites. The aforementioned lack of horticultural-based skills in the sector presents further challenges to creating a more localised food system in North Wales. Furthermore, uncertainty around routes to market was highlighted in the farmers and primary producers workshop as a key barrier to diversifying what is produced. Other key factors preventing the growing of novel crops included the need to invest in new machinery and methods.

Providing effective support for producers / businesses

- 3.50 In order to create shorter, more diverse and more resilient supply chains in North Wales, there is a clear need to provide the necessary support to local businesses to enable them to scale-up. Costs for smaller producers in a rural area such as North Wales, whether it is related to storage, distribution or marketing, can act as a barrier to this endeavour. The provision of grant funding is one such mechanism that can be used to alleviate this, allowing businesses to expand their operations by moving into new premises or

¹⁸⁷ Welsh Government. (2021) The Backing Local Firms Fund. Available at [New £1 million fund to back local businesses in communities across Wales | GOV.WALES](#)

¹⁸⁸ Further information at: [Menter Môn - Home \(mentermon.com\)](#)

¹⁸⁹ Further information at: [Home | Larder Cymru](#)

¹⁹⁰ Further information at: [Harlech Foodservice - Home](#)

¹⁹¹ Further information at: [Innovative Food Production & Menu Development | Est. 1924 \(roberts-wales.co.uk\)](#)

achieving accreditation. Upcoming opportunities, such as the £10 million Agri-Tech Launchpad will also offer grant funding opportunities for businesses who submit innovative project ideas that benefit the agriculture and food sectors.¹⁹²

3.51 However, in terms of accessing funding opportunities for the region, current resourcing constraints prevent organisations from having the time to effectively target national innovation funds, which in turn, could help finance collaborative ventures for businesses. Furthermore, within existing funding opportunities stakeholders have cited challenges due to the relative complexity of the application process preventing smaller businesses from applying as they do not have the time, resources and knowledge to engage with such processes. As such, it is feared that this lack of engagement may prevent smaller businesses from scaling up. There is, however, support available to food and drink businesses through Welsh Government initiatives such as Cywain, Investor Ready and Scale Up for business start-up and development, investment and funding options and support for growth. Project Helix, also support food and drink businesses with designing procedures and third- party accreditation. Currently, this knowledge transfer support is funded at 100% for small businesses and 80% for medium businesses and 50% for larger businesses. However, there still appears to be some producers who are unaware of the potential support offered by initiatives such as Project HELIX.

3.52 Conversely, stakeholders also noted that many producers do not have any ambition to scale, which offers a different challenge. Alternatively, due to the current uncertainty and volatility of the economic climate, there is a risk that people are deterred from starting new food-related businesses at all.

Gaps in training, skills and education

3.53 This existence of a skills gap in the agri-food sector in North Wales was widely recognised among stakeholders, with a clear need for more investment in training and education in areas ranging from basic numeracy skills to operating machinery. The absence of a level 3 horticulture course was the most notable gap in training provision in North Wales, although there was scepticism whether there would be enough demand to fill the course. A potential alternative would be to add horticulture as a module to an already existing course, such as the Agriculture BTEC Level 3 course.

3.54 While knowledge transfer between farmers is available through schemes such as Welsh Government's Farming Connect Programme and the Horticulture Cluster¹⁹³, there is a perception that there is limited support on how to scale up growing operations. Other barriers include the overall limited interest/demand from farmers wanting to grow on a large scale, with the perception among some in the farming community that diversifying what you produce does not result in enough tangible benefits. In this context, one

¹⁹²The Agri-Tech Launchpad for Mid and North Wales is currently still under development.

¹⁹³ Business Wales (2022) Horticulture Cluster. Available at: [Horticulture Cluster | Business Wales - Business Wales \(gov.wales\)](#)

stakeholder stated that they felt there was a missed opportunity to encourage farmers to diversify what they produce through offering subsidies as part of the Sustainable Farming Scheme.

- 3.55 The perceived lack of interest from younger people in food-based courses, whether it is food technologist or regenerative horticulture, was expressed as a cause for concern. This was partly attributed to the lack of apprenticeships in the food and drink industry, combined with several schools no longer providing work experience opportunities to their students. The fact that food literacy is not prominent in the curriculum was also seen as a contributing factor. However, it is important to note recent research by Tyfu Fyny highlights membership of the Land Workers Alliance (LWA) has doubled in recent years¹⁹⁴. This, combined with the high levels of demand that exists at Apricot Centre at Dartington¹⁹⁵ for Regenerative Horticulture indicates that there is interest in regenerative horticulture, but that current provision may need to be repositioned.

Recruitment challenges

- 3.56 While some stakeholders referenced the tourism economy in North Wales as an opportunity to grow the sales of local produce, others felt it has the negative affect on the food sector. The purchase of second homes from people outside of North Wales was cited as having a direct impact on 'brain drain', with young people who could potentially work in the food sector leaving the area as they cannot afford to buy a home. Although there are initiatives available to support those seeking work such as Welsh Government's Food and Drink Skills Wales, Food Innovation Wales – Zero to Five and Employee Skills North Wales, it is apparent that more could be done to engage with young people and those seeking work to help overcome these recruitment challenges.
- 3.57 In terms of attracting skilled labour from outside the area, the rural location and the relative 'lack of infrastructure' in North Wales was seen to put the region at a potential disadvantage. This is compounded by the competition in the sector from the North West of England.
- 3.58 Some stakeholders also expressed a real concern with members of the current food and drink workforce leaving the sector, whether it be due to poor pay, limited career prospects or businesses entering liquidation due to the current economic circumstances. Disaffection within the farming sector, exacerbated by the Sustainable Farming Scheme, was viewed as heightening the risk of many farmers retiring. This is a significant worry, especially considering that farmers on average, ranks as one of the oldest professions, combined with difficulties recruiting newer, younger entrants into the sector.

¹⁹⁴ Social Farms and Gardens (2021) Tyfu Fyny- Full Evaluation Report. Available at: [tyfu_fyny_full_evaluation_report_eng_july20_0.pdf \(farmgarden.org.uk\)](https://farmgarden.org.uk/tyfu_fyny_full_evaluation_report_eng_july20_0.pdf)

¹⁹⁵Further Information at: [The Apricot Centre 'Cultivating Sustainability in Land, Lives & Livelihoods'](#)

Limited Production capacity

- 3.59 The disparity between North Wales' production capacity in comparison to its consumption profile is a significant limitation of its current food system. This is particularly acute in the field of edible horticulture where there is an overreliance on importing fruit and vegetables that can be grown locally. As things stand, there is a significant shortfall in the amount of land dedicated to fruit and veg growing to even meet the basic dietary requirements of the North Wales population (see section 4 for more detail).
- 3.60 This reliance is further exacerbated by current trends, such as a greater frequency of extreme weather pattern through climate change (see Section 2) - which disproportionately affects the countries from which North Wales and the rest of the UK heavily rely on for food imports.

Lack of food-grade premises and processing infrastructure

- 3.61 The lack of food-grade premises overall processing facilities in the region was widely recognised as a major gap in the supply chain and one of the biggest weaknesses of the food system in North Wales, supported by findings in the literature review.^{196,197} The reliance on a small number of larger scale processors in particular was a cause for concern, with one stakeholder stating that if Cotteswold Dairy closed, there would be far less milk processed in North Wales available on a large scale. This situation means a substantial portion of Welsh milk is being exported to England for processing,¹⁹⁸ despite the existence of several successful dairy businesses in the region such as South Caernarfon Creamery, Snowdonia Cheese and Llaeth y Llan.
- 3.62 Similarly, limited abattoirs in Wales impact livestock processing, although UK-wide research suggests that local abattoirs are associated with higher animal welfare and offer economic and environmental benefits.¹⁹⁹ However, despite their importance, the availability of local abattoirs is not always used due to various factors, including the type of livestock and logistical constraint.²⁰⁰ With limited production of fruit and vegetables in North Wales, there is almost no processing capacity for these products at a commercial scale.
- 3.63 As global food manufacturers reshore production and national retailers diversify supply chains, significant investment will be needed in processing, storage and transport facilities to manage seasonal production cycles.

Prominence of retailers

¹⁹⁶ Welsh Government (2019) Agriculture in Wales. Available at: [Agriculture in Wales | GOV.WALES](#)

¹⁹⁷ Ambition North Wales (2023) Stakeholder interviews May 2023

¹⁹⁸ Welsh Government (2019) Agriculture in Wales. Available at: [Agriculture in Wales | GOV.WALES](#)

¹⁹⁹ Sustainable Food Trust (2023) Final Abattoir Users Survey. Available at: [Final_abattoir_users_survey_web.pdf \(sustainablefoodtrust.org\)](#)

¹⁹⁹ <https://meatpromotion.wales/en/markets/livestock-market-trends/abattoirs-in-wales>

²⁰⁰ Ibid.

3.64 The domination of larger retailers in North Wales and the wider food system in the UK presents challenges when seeking to shorten supply chains. Several stakeholders felt that farmers were in many respects 'at the mercy' of retailers in terms of prices. Supermarkets were also criticised for 'hoovering up' deals with local producers / farmers, away from wholesalers, with smaller scale operators unable to compete with their level of demand. Others interviewed felt even more strongly, claiming that supermarkets extract wealth from the local communities, paying workers a minimum wage, with only small proportion going back to the farmers. Despite this, it was recognised that it would be challenging to 'wean' people off the convenience of supermarkets, given their market dominance.²⁰¹ As such, some stakeholders expressed concern that consumers will only engage with the food system differently when we hit a crisis point, and not before. It could also be argued that supermarkets do play a role in stimulating local economies and providing job creation. Furthermore, the strong relationship currently being fostered between Welsh Government and major retailers offers opportunities for producers, as evidenced by the £38 million in sales generated at the BlasCymru 2023 and Royal Welsh Business Lounge events.²⁰²²⁰³ The Cywain Programme also enables a pathway for businesses to access the Welsh Government Trade Programme which provides support to access the retail market. Despite this, it is important to recognise that barriers still exist for smaller producers in this area.

Consumer habits

- 3.65 The limited numbers of consumers purchasing local food is a major challenge to any attempts to shorten supply chains in North Wales. Across both interviews and workshops, cost and convenience were identified as the primary barriers to greater consumer engagement with local food. In contrast, environmental credentials were seen as being lower down the list of factors which drive consumer purchases. Price and availability remain key barriers to purchasing locally grown produce in the literature.²⁰⁴
- 3.66 Stakeholders felt that there was a lack of understanding among consumers of the true cost of food associated with producing local, environmentally sustainable produce. They expressed frustration at perceived consumer expectations of cheap food, where all produce is consistently available all year round, as opposed to food which is slightly more expensive, that is seasonal but nutritiously dense. They also cited the challenge of increasing consumer purchasing of local food when people are put off by the additional effort of washing off any remnants of soil. Similarly, consumers are reluctant to purchase more local seafood and shellfish due to a lack of exposure on

²⁰¹ Food and Drink Wales (2023) Community Food Strategy.

²⁰² Welsh Government Press Release (2024) £38 million taste of success for Welsh food and drink. Available at: [£38 million taste of success for Welsh food and drink | GOV.WALES](#)

²⁰³ Food and Drink Wales. Royal Welsh Week enhanced a bumper year for Welsh food and drink. Available at: [Royal Welsh Week enhanced a bumper year for Welsh food and drink | Business Wales - Food and drink \(gov.wales\)](#)

²⁰⁴ Ibid.

how to prep and cook this type of produce properly. It was also highlighted how many consumers prefer to purchase ready meals as they lack the cooking skills or time to be able to cook meals from scratch at home.

- 3.67 The inability of many households to cook from scratch was also viewed as a barrier to improved consumer engagement with local food (one stakeholder claimed over 65% of UK no longer cooks from scratch). This was attributed to both a lack of knowledge of (poor food literacy), as well as a lack of resources to cook nutritional food, with several households relying on appliances such as microwaves to cook processed food.
- 3.68 This leads into the wider social challenge of food poverty, which is prevalent in North Wales (see literature review), as well as the rest of Wales and the UK. This has been exacerbated by the recent cost of living crisis, with an estimated 30% of the population unable to purchase healthy food.²⁰⁵ Stakeholders recognised that the existence of food poverty among households inevitably meant that their priority was ensuring their family eats at all, more frequently choosing cheaper and more accessible ultra-processed food, as opposed to concerning themselves with the origin of the food they purchase.
- 3.69 However, as research indicates limited community awareness and participation in agri-food initiatives beyond avenues such as food banks and community fridges, there is work to be done building understanding of training, skills and employment pathways to support communities to a more resilient and economically sustainable position.

Imports / exports balance

- 3.70 Some stakeholders have been critical on what they see as an overemphasis on exporting food from North Wales, as opposed to concentrating efforts on boosting primary production. In addition, the importing of produce that can be grown in North Wales has been criticised for increasing unnecessary carbon emissions, as well as undermining local growers. Certainly, the production profile in Wales does not align with consumption patterns, with a significant portion of Welsh lamb production being exported, and demand for lamb in the UK experiencing a decline.²⁰⁶²⁰⁷
- 3.71 As referenced earlier, the mussel industry in North Wales is experiencing reduced production due to changes in EU importing regulations. However, efforts to transition from exports to more domestic consumption in this sector (such as getting mussels into local schools through wholesale purchasing) will prove challenging given the higher price of UK mussels in the

²⁰⁵ Food Standards Agency (2022) Latest consumer survey tracks level of worry around the cost of food and its impact on food safety. Available at: [Latest consumer survey tracks level of worry around the cost of food and its impact on food safety | Food Standards Agency](#)

²⁰⁶ Welsh Government (2019) Agriculture in Wales. Available at: [Agriculture in Wales | GOV.WALES](#)

²⁰⁷ ²⁰⁷ Welsh Government (2018) NDF Regions and Rural Study. Available at: [Report \(gov.wales\)](#)

international export market when compared to the approximate wholesale price.²⁰⁸

Lack of support and scalability

- 3.72 Incoming smaller producers often lack expertise in self-marketing and may lack opportunities for knowledge exchange and collaboration with other small businesses.²⁰⁹ Existing initiatives such as Farming Connect, the Welsh Government's Food and Drink Wales Clusters Programme and Project HELIX, led by Food Innovation Wales, are striving to enhance this aspect by facilitating upskilling and knowledge exchange. Other projects supported by the Welsh Government include business startup support through Cywain and Business Wales, business growth through the Trade Development and Foodservice programmes, Financial management and growth support through the Investor Ready and Scale Up Programmes, Market Insight data, Export support and skills and accreditation support through Food & Drink Skills Wales. However, for new businesses there is often a time lag between the initiation of these activities and the tangible outcomes in terms of increased production or improved processes. This delay can be attributed to various factors, such as the time needed for participants to acquire and apply new skills effectively and optimise their operations to address existing challenges. Hence, while these schemes hold promise for enhancing resilience and productivity in the long term, it is essential to recognise the transitional period during which these benefits may not be immediately realised.
- 3.73 Additionally, both Welsh and UK government investment in small-scale horticulture is lacking, resulting in an uneven playing field and a lack of coordinated vision for the sector.²¹⁰ This is exacerbated by complicated procurement processes which inhibit smaller suppliers from bidding for public sector (e.g. education) catering contracts.²¹¹
- 3.74 In the context of CSA schemes, there are challenges related to scaling and increasing diversity of membership. Limited resources hinder the systematic improvement of business models and the outreach to diverse members and low-income households.²¹²

²⁰⁰ Seline Wamucii (2024) What is the price of mussels per kilogram/pound in United Kingdom (UK) today? Available at:

²⁰⁹ Tyfu Cymru (2020) Welsh Fruit and Veg Production. Available at: [Training and Support for Welsh Horticulture - Tyfu Cymru](#)

²¹⁰ Ibid.

²¹¹ Peas Please (2021) Feeding Our Future. Available at:

[Peas-Please-School-Food-Report-2021.pdf \(foodsensewales.org.uk\)](#)

²¹² Verfuert C. and A. Sanderson Bellamy (2022) Accessible Veg: A pilot project exploring the barriers and benefits to CSA memberships for food-insecure households. Available at: [Accessible Veg Report June 2022 - Dr Caroline Verfuert and Dr Angelina Sanderson Bellamy - foodsensewales.org.uk](#)

Issues with self sufficiency

- 3.75 Self-sufficiency scenarios, while envisioning alleviation of food poverty, also pose risks such as the development of unofficial markets and potential negative impacts on global trade.²¹³ Issues related to land availability and viability, as well as limited access to transport and digital services in rural areas, further hinder production and consumption of local produce.²¹⁴

²¹³ UKRI Agri-food for Net Zero Network+ (2023) What Could the UK Agri-Food System Look Like in 2050? Available at:

[What could the UK agri-food system look like in 2050? - AgriFood4NetZeroNetwork+](#)

²¹⁴ Welsh Government (2018) NDF Regions and Rural Study. Available at: [Report \(gov.wales\)](#)

4. Assessment of current distribution of regional demand

- 4.1 The focus of the report thus far has predominantly been on the key risks and opportunities, barriers and enablers associated with increasing the supply of local food into the North Wales food system. However, in order to ensure any shift towards a more localised model is successful, sustainable and resilient, there is a need to account for the current levels of demand in the region.
- 4.2 As has already been noted, recent events such as the COVID-19 pandemic have demonstrated that levels of demand towards locally based food and away from the international supply chains offered by the supermarket model can change quickly and dramatically.
- 4.3 With efforts to increase the levels of demand for local produce both from the public sector and through major retailers, it is important to calculate (as much as feasibly possible) what implications this would have in terms of the volume of produce that needs to be grown, the scale of land required, and the investment costs needed.

Land requirements for North Wales population to achieve its '5 a day'

- 4.4 As has already been noted, there is a chronic shortage of commercial fruit and veg producers across Wales, including in the North Wales region. Data from Tyfu Cymru indicates that there are a total of 204 across Wales, with 120 of the 204 classified as small-scale producers.²¹⁵²¹⁶
- 4.5 In total, it is estimated that Wales is producing 19,551 tonnes of fruit and veg (excluding potatoes and legumes) per annum on 931 hectares of land, constituting 0.1% of total land.²¹⁷ Based on current population figures versus land dedicated to fruit and veg production it is calculated that in order to produce '5 a day' for the entire population, there needs to be a 29 fold increase in the amount of land growing fruit and veg, from 931 hectares to 26,991 hectares. Within the context of North Wales, where 22% of the total population of Wales live, this would equate to 5938 hectares or a 17 fold increase from the current 350 hectares noted in official data. However this excludes the production of legumes and potatoes.²¹⁸²¹⁹ It is also important to note that much of the wheat and maize produced in Wales is used for animal feed, reducing what is then fed into the local supply chain.²²⁰

²¹⁵ Tyfu Cymru (2020) Welsh Fruit and Veg Production. Available at: [hort-baseline-tc-final-1252020-read-only.pdf \(tyfucymru.co.uk\)](https://www.tyfucymru.co.uk/1252020-read-only.pdf)

²¹⁶ Small scale is defined as under 10 hectares. Of the 120 producers, 117 have under 5 hectares, with 3 having 5-10 hectares worth of land.

²¹⁷ Tyfu Cymru (2020) Welsh Fruit and Veg Production. Available at: [hort-baseline-tc-final-1252020-read-only.pdf \(tyfucymru.co.uk\)](https://www.tyfucymru.co.uk/1252020-read-only.pdf)

²¹⁸ North Wales Collaborative: 2021 Census Results. Available at: [2021 Census: first results \(northwalescollaborative.wales\)](https://northwalescollaborative.wales/2021-Census-first-results)

²¹⁹ Office for National Statistics (2021) 2021 Census Data. Available at: [Population and household estimates, Wales - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/population-and-household-estimates/wales)

²²⁰ Strutt & Parker (2025) What about Wheat? Available at: [What about wheat? A look at our most important crop | Strutt & Parker \(struttandparker.com\)](https://www.struttandparker.com/what-about-wheat/)

- 4.6 In terms of tonnes, in order for the Welsh population to meet its 5 a day fruit and veg requirement every year, there needs to be 566,803 tonnes produced every year.
- 4.7 When considering the population of North Wales is estimated at 618,100, or around 20% of the population of Wales, which stands at 3,107,500²²¹, it can be calculated that North Wales requires around 113,360 tonnes of fruit and veg to be produced each year to meet its population demands.
- 4.8 While we do not have data on the current amount of land in North Wales dedicated to producing fruit and veg, working off national calculations, if all of Wales needs to increase to 26,991 hectares to meet the 5 a day requirements, as a proportion of the population, this would indicate that North Wales would roughly need to increase the amount of land dedicated to fruit and veg production to 5,398 hectares. It is also important to consider that field beans and crops are the main grain legumes grown in the UK, around 250,000 ha grown. In recent years, there has been an increasing number of lupins, broad beans, soya beans and navy beans that have all been grown.²²² However, the Sustainable Food Trust highlight that many pulses grown in the UK are used mainly in livestock feed for meat and dairy animals, fish food, the food industry and for export.²²³ It is also reported that 40% of wheat and more than 45% of the barley produced in the UK are also used for animal feed, demonstrating a greater need to reflect on potential land usage for food produced for direct human consumption.²²⁴
- 4.9 We of course recognise that the current profile of horticultural production across Wales is not spread proportionally across the country according to population size, and as such, this figure is limited in its accuracy. However, it demonstrates the scale of change required in terms of land dedicated to horticultural production in order to meet wider levels of demand.

Public sector demand

- 4.10 In 2022 Brookdale Consulting conducted a survey on behalf of Welsh Government which indicated that the public sector in Wales spends £90 million each year on food and drink, with the NHS spending £22 million annually on food.²²⁵ However, over a third of this public sector spend goes to companies outside of Wales with only 33% of food sold to the public sector coming from produce that was reared and grown locally in Wales.²²⁶ Furthermore, only 16% of Welsh food and drink businesses supply into the

²²¹Office for National Statistics (2021) 2021 Census Data. Available at [Population and household estimates, Wales - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/population-and-household-estimates/wales)

²²²Potash and Sulphur for Grain Legumes- Potash Development Association (PDA) [18. Potash and Sulphur for Grain Legumes - Potash Development Association \(PDA\)](#)

²²³Rediscovering British Pulses. Sustainable Food Trust. Available at: [Rediscovering British Pulses | Sustainable Food Trust](#)

²²⁴Strutt & Parker (2025) What about Wheat? Available at: [What about wheat? A look at our most important crop | Strutt & Parker \(struttandparker.com\)](#)

²²⁵Brookdale Consulting (2022) Buying Food Fit for the Future. Available at: [Buying Food Fit for the Future \(adobe.com\)](#)

²²⁶Ibid.

public sector.²²⁷ This is unsurprising given the high number of small and micro producers in Wales, with smaller businesses and producers historically struggling to access the public sector market.

Increased demand for local fruit and veg through Universal Free School Meals²²⁸

4.11 The rollout of Universal Free School Meals (UFSM) for primary school children across Wales throughout 2024 will result in increased demand across the public sector. Below, we set out some calculations, working on the assumption that there will be an 80% take-up of UFSM which will be channelled towards increasing the volume of local produce into primary school meals. It is important to note that due to limited data available, we are unable to factor in pupil meal preference into this calculation. As such, we have worked on the basis that pupils would choose a meal containing fresh vegetables.

4.12 The equations used to calculate demand in this context is as follows:

80% take up from primary pupils eligible for free school meals in North Wales in 2024 (41,292)²²⁹ times the number of school days (190) = number of meals per school year (7,845,480)

Number of meals per school year (7,845,480) times the minimum veg requirement per child per meal (80g) = 628 tonnes of veg per year

4.13 In terms of agricultural yield, we have worked off the assumption of 2.2 tonnes of mixed fruit and vegetables produced per acre.

4.14 As such, we estimate that roughly 285 hectares of land will be required to meet the vegetable requirements of children claiming universal free school meals across North Wales.

4.15 In terms of investment, with the average cost of £0.76 per kg, this equates to a cost of £477,280 to provide the total veg needed to feed up to 80% of primary school children eligible for universal free school meals for the school year. When factoring in the increased cost of sourcing local and / or organic produce, (£1.31 p/kg), the average cost equates to £822,680 - an increase of £345,000 (72%). However, when this is broken down to an actual increase per meal, per child to provide local veg, the figure is relatively small (£19.92 per child per year, compared with £11.56 per child per year for industrially produced veg).

Scope to increase supply of local produce

4.16 Our research has indicated that while current levels of fruit and veg production remain limited in the North Wales region, there are certain categories of produce that are well placed to be scaled up. This includes

²²⁷ Ibid.

²²⁸ The calculations for this section have largely been modelled on Alex Cook's Scoping Paper on School Meals.

²²⁹ According to Stats Wales data, there are currently 51,615 primary school pupils in North Wales.

produce such as potatoes, chard, pumpkins and apples. Furthermore, maize, peas, beans, lentils and other legumes could feature more prominently. As such, there is scope to redesign the school menu towards meals that have a greater prominence of these local products. To strengthen the popularity and demand for local produce in school meals among pupils, there is also potential to run taste panels to ascertain their preferences, designing the menu accordingly, while also factoring other elements such as seasonality.

- 4.17 Working on the earlier assumption of an 80% take up of eligible children for UFSM, there will 41,292 primary school pupils eating school meals across North Wales. If you were aiming for every child to eat one jacket potato each week of the school year (39) there needs to be 1,610,388 potatoes produced. If there is a target of 50% of all potatoes going into school meals to come from North Wales, then the region needs to produce 805,194 potatoes every year.
- 4.18 Although variable according to the type of potato and experience of the farmer, it is estimated that 5,000 potatoes can be grown in an acre over a 6 month period. Therefore, North Wales would roughly require 65 hectares of land to provide 50% of primary school children with one locally grown jacket potato every week of the school year. This is a relatively modest target considering the average volume of land producing potatoes in North Wales across the period 2007-2017 stood at 380 hectares. This demonstrates the main challenge to increasing local potatoes into schools is not land requirements but ensuring that farmers engage with wholesalers to supply into the public sector, as opposed to supplying into other channels, such as retail.
- 4.19 Due to a limited access to data on the volume of vegetables schools procure, it is more challenging to calculate the land requirements associated with an increase in the amount of veg produce such as carrots, courgettes or legumes. However, when you factor in the average yield per hectare for these types of produce, it is clear that the land requirements to meet this demand would be relatively small.²³⁰

Investing for supply chain resilience

- 4.20 In considering resilience and investment, we can also look at particular crops where there is a high reliance on imports despite having capacity to produce within the UK. Tomatoes are a good example where the UK imports over 1 million tonnes of fresh, canned, pureed and tomato sauce per year (mostly from the Netherlands, Spain and Morocco) compared with

²³⁰ Latest horticulture statistics at DEFRA suggest that the average yield in 2022 runner and dwarf beans stood at 6.4 tonnes per hectare, Green peas for processing was calculated at 4.2 hectares. Dessert apples average yield was 36.1 tonnes per hectare, with Courgettes (28 tonnes per hectare) and Carrots (74 tonnes per hectare) deemed to be produce a much higher yield than the average veg. Available at: [Horticulture statistics - 2022 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/horticulture-statistics-2022)

production of 65,000 tonnes.²³¹ There have previously seen supply shortages of this crop, and it is likely to be vulnerable in the future due to its high water use in areas that are already seeing water shortages. Changing climate in the UK will bring warmer (though likely less settled) weather, and investment in greenhouses to meet demand through domestic production is already happening elsewhere in the UK.

- 4.21 On average, we each use around 17kg tomatoes per person per year in the UK, and tomatoes on average require 0.8m² per kg.²³² To calculate land use requirements to meet the primary school demand outlined above and assuming local production only meets 40% annual demand (to account for one meal a day, continued imports, school holidays etc), North Wales would require 23 hectares of tomatoes per year to meet the 290 tonne demand from primary schools.
- 4.22 While again, this is a modest amount of land, it is of course only a fraction of demand for tomatoes/tomato product in North Wales – hospitals and hospitality businesses also rely on imports as well as those cooking/eating at home. In fact, it represents around 2% of the total demand of 12,181 tonnes required each year. Assuming a target of 40% self-sufficiency in tomato production, North Wales would require 374 hectares of tomatoes to meet total demand for tomatoes in North Wales. While this is a much more significant figure, public sector commitment to source tomatoes locally, plus prioritising investment in the infrastructure to meet this demand would (1) provide incentive for local producers to initiate/scale production and (2) spur the pipeline for skills and workers.

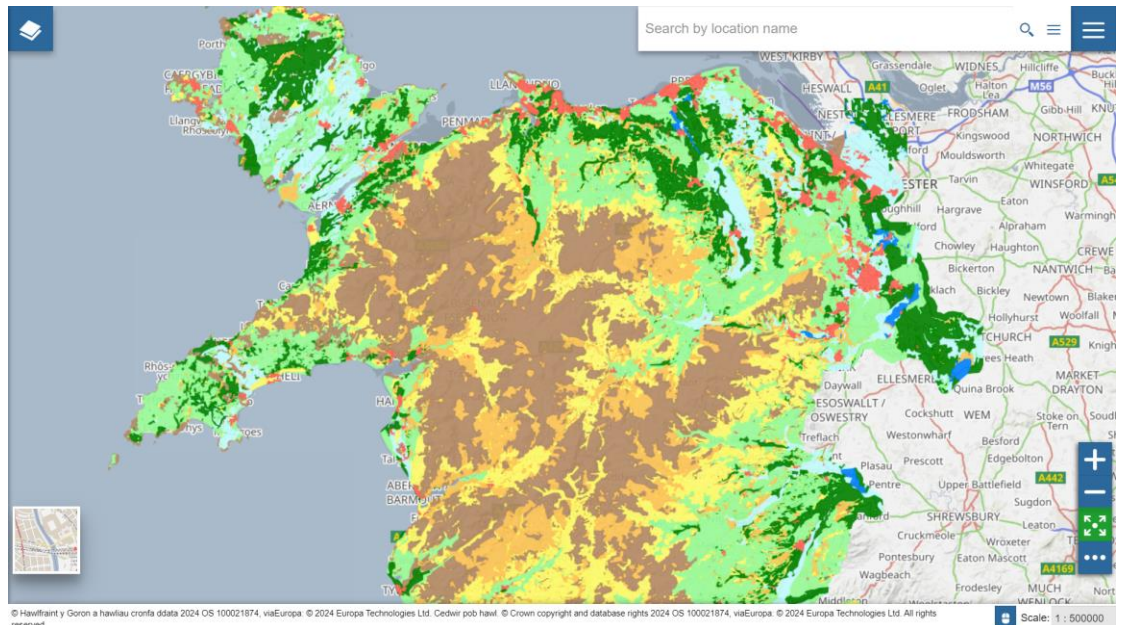
Investment costs

- 4.23 While it is clear any increased local supply into the public sector will require greater amounts of land dedicated towards edible horticulture, there will also be investment costs which need to be factored in to decision-making.
- 4.24 For example, any redesign to school menus will require kitchen staff to give extra time, the development of external training and a bespoke toolkit. Furthermore, there is the costs of the delivery of the course itself, alongside a team working on a three menu development in line with seasonality, local produce, logistical challenges and local supply. An expert supply advisor would also be likely required, especially in the early stages of redesign, working closely with the logistics provider to liaise with local producers and farmers in the region. Finally, an engagement officer would likely be required.

²³¹ Tomato News (2023) United Kingdom Imports: contrasting trends according to the various categories. Available at: https://www.tomatonews.com/en/united-kingdom-imports-contrasting-trends-according-to-the-various-categories_2_2101.html and Tridge (2021) How Self-Sufficient is the UK for Fruit and Vegetables? Available at: <https://www.tridge.com/stories/how-self-sufficient-is-the-uk-for-fruit-and-vegetables>

²³² Our World in Data (2018) Land use per kilogram of food product. Available at: [Land use per kilogram of food product \(ourworldindata.org\)](https://ourworldindata.org/land-use-per-kilogram-of-food-product)

4.25 Furthermore, research will be required to understand land suitability (soil type, topography, together with forecasted climate impacts). The map below illustrates the Best and Most Versatile (BAMV) land across North Wales with fruit and veg grown most easily on grade 1 and 2 land (dark, light blue respectively) but some crops able to be grown on grade 3 land (light green) too.



4.26 As referenced earlier, a key issue identified in this research is that information about grade 1-3 land and its potential use is hard to find within either the local development plans of local authorities, or their corporate plans. This finding underpins the recommendation for review of local development plans.

4.27 Finally, processing infrastructure will need to be considered – storage of product, their transport and any processing into products suitable for school meal contract delivery.

North Wales Food Systems Map

4.28 As outlined above, it is evident that there is a significant amount of activity occurring ‘on the ground’ in the food sector across the North Wales region.

4.29 However, in order to create sustainable, holistic change, it is important to also attain a detailed understanding of the food system as a whole, on a higher level, identifying the multiple elements and interactions between different stakeholders, initiatives and external economic, environmental, social and cultural variables.

4.30 As such, as part of this research, we sought to design a systems map that captured the key characteristics and interactions of the North Wales food system.

The approach adopted was based on the Berlin-based Systems Mapping Academy's methodology.²³³ This allowed for the consideration of all variables impacting the system, such as consumer demand, distribution, manufacturing capacity, primary production, and skills, within their context. Mapping the relationships between each stage in the value chain and external factors enabled a more holistic understanding of the system's functioning.

This entailed a simple five-stage process and is outlined in detail below (for further information, see Annex B):

Framing – Defining the purpose of the research and the main issues it sets out to address

Exploring – Gathering intelligence from a wide a range of sources as possible

Mapping – Bringing all the results together into a systems map

Reflecting – Using the map as a means to reflect on where problems occur and to trial possible interventions

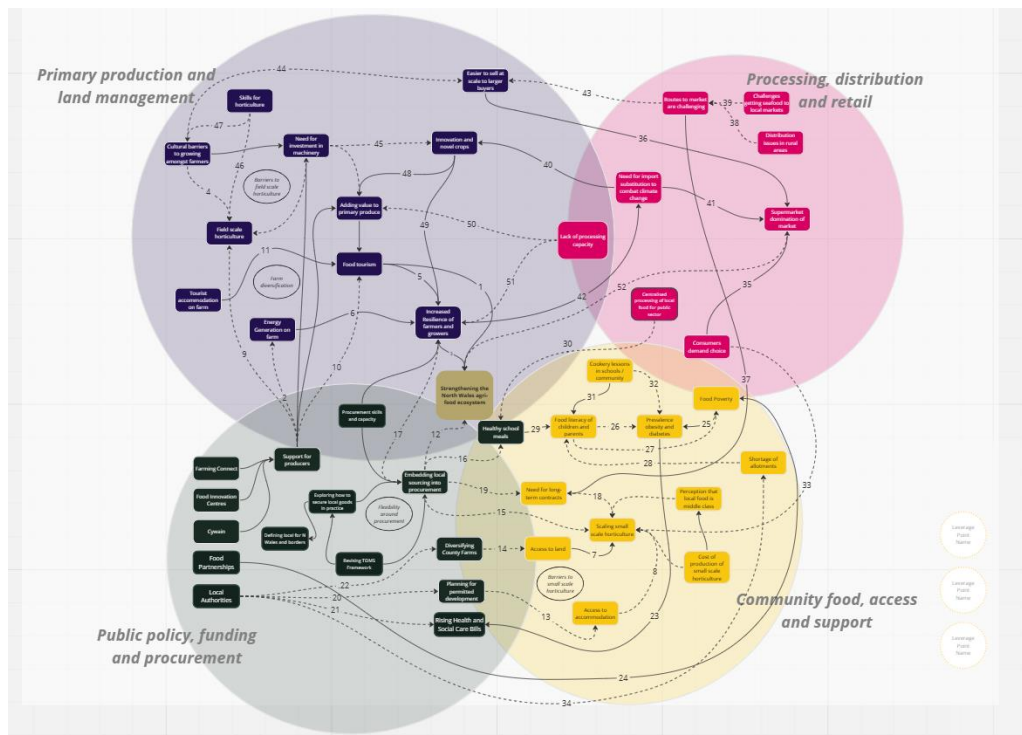
Leveraging – Identifying the most effective policy interventions to deliver change

4.31 Upon completion of this process, we were able to finalise the systems map outlined in Figure 3.1. The map is structured around a set of identified key themes:

- Primary food production and land management
- Public policy, funding and procurement
- Community food production, access and support
- Processing, distribution and retail

²³³ Available at: [System Mapping Academy \(system-mapping.com\)](http://system-mapping.com)

Figure 3.1: North Wales Food Systems Map



Source: Miller Research

4.32 To access the full size, interactive version of this map, please click on the following link:

<https://miro.com/app/board/uXijVKQ0bmSq=/>

Leverage points

4.33 As part of the consultation process, we ‘sense checked’ the accuracy of the map, ensuring all key elements were included. We were then able to identify key ‘levers of change’ in collaboration with key strategic stakeholders (see below). These leverage points were subsequently refined into specific actions that are outlined in Section 6.

4.34 Sitting within the primary production and land management cluster, food tourism was viewed as a key lever of change which can strengthen the North Wales agri-food ecosystem. Specifically, it was seen as a mechanism which can provide support for producers by increasing market demand and thus the overall resilience of the sector. It was also seen as a key driver behind increasing the awareness of the quality and value of local produce in North Wales, while also being able to contribute to ‘experiential food’ through the promotion of on farm accommodation. As a lever of change, food tourism was seen as both internal and external, with the potential to boost local food consumption within the North Wales region, as well as beyond, to areas such as North West England. However, the point was raised that significant investment had already been made by Welsh Government and North Wales stakeholders in this area over the past 10 years and that the aims of investment in this area had to go beyond *only* selling to tourists. Examples discussed included using food tourism to build

supplier relationships in North West England or focusing on shifting the provenance of product ingredients from international to local sources.

- 4.35 Diversifying county farms that currently exist across the North Wales region was identified as a lever of change which can potentially address multiple issues. This included the current access to land, as well as the ability to increase small scale horticulture production. As the owners of the land, local authorities would also have the potential to shift emphasis of county farms towards delivering both environmental and social goals that are aligned with their respective strategic plans. However, multiple challenges are also recognised, such as the availability of upcoming vacant tenancies, and the pressures for local authorities to sell the land to mitigate budgetary pressures.
- 4.36 Embedding local sourcing into procurement, specifically within the public sector has been a key focus of this research and was viewed as a key lever of change. This was because of its potential to build small scale horticulture, as well as increase the resilience of farmers and growers through creating consistent demand. Environmental benefits of localising procurement were evident, given the shortening of supply chains, with the increased supply of local produce into schools seen as delivering multiple health benefits among pupils. Stakeholders recognised the opportunities that procuring school meal produce from local farms offered, particularly in relation to education and strengthening connection with food.
- 4.37 Finally, the strengthening of processing facilities in the supply chain was seen as a major lever to strengthen the North Wales food system. Given the agenda to increase the supply of local food into the public sector and beyond, as outlined above, it is clear that there is a need for greater processing capacity to meet this demand. The current lack of processing capacity was seen as preventing added value to produce, as well as reducing the resilience of farmers and growers.

5. Recommendations

- 5.0 This section outlines both wider strategic considerations and specific actions that can be implemented going forward as part of the wider vision for a more healthier and sustainable food system for North Wales, ensuring economic prosperity and alignment with the Wellbeing of Future Generations goals and related national policies including the 2050 net zero target and the biodiversity 30x30 target. It also briefly outlines the roles and responsibilities of the various stakeholders associated with the North Wales food system in driving forward change.

Strategic Recommendations

Recommendation 1: Provide leadership and a clear vision to secure buy-in and establish core values associated with the North Wales food system. Consider establishing a regional steering group to provide more direction.

- 5.1 In order to successfully transition towards a more sustainable food system in North Wales it is imperative that the key public sector organisations in the region build on the valuable collaborative work done to-date, continuing to break down silos and building a vision of the future of the food system in Wales with wider stakeholders.
- 5.2 As such, a regional steering group involving leadership teams should be agreed or established to facilitate discussions around the future direction of travel for the North Wales agri-food sector. This includes considering where change is required, as well as identifying suitable next steps and securing additional resource to aid in the capitalisation of funding opportunities. Crucially, the steering group would be primarily responsible for achieving a point of critical mass towards action.
- 5.3 To secure buy-in to the wider vision, public sector organisations should seek to engage not only institutional stakeholders in the food system, but also citizens to support consensus. Successful examples of this kind of engagement in the region include the People's Assembly in Denbigh organised by Tŷ Gwyrdd in 2022, the North East Wales Cost of Living Summit at Plas Madoc, Acrefair in 2022 and elsewhere with Aberystwyth Food Share.
- 5.4 Through local authorities, there should be a review of key strategies within public sector bodies to ensure food is adequately considered across departments such as economy, community, procurement, education and planning, all of which are critical to agri-food considerations. This should tie in with the work being undertaken by the Future Generations Commissioner for Wales, working with Public Service Boards (PSBs) to review the prominence of food in the well-being plans of local authorities and Health

Boards across Wales, as well as the vision outlined for food in the Cymru Can strategy.²³⁴

- 5.5 Furthermore, the potential of establishing regional / local food plans should also be explored as is being done in Carmarthenshire, with the local authority working with Hywel Dda University Health Board, Food Sense Wales, Carmarthenshire Association of Voluntary Services and Social Farms & Gardens.
- 5.6 In this context, the forthcoming North Wales Corporate Joint Committee (CJC) could be structured to encompass strategic agri-food leads supporting local authorities and sector partners by facilitating linkages and coordination. With food a fundamental element of economic wellbeing, priorities here should include integrating food into regional and local area energy plans, regional and local area development plans and planning processes across North Wales.
- 5.7 It is clear that the role of political leadership and strategic vision is fundamental in shaping the future of the food system. Each of the four future food scenarios explored in Annex A each have their own strengths and weaknesses, demonstrating the need for dialogue and compromise to identify a balanced future scenario appropriate for North Wales.

Recommendation 2: Foster collaborative working through structures that engage businesses, colleges and community food groups.

- 5.8 While North Wales hosts an impressive array of organisations working in the agri-food space, there is scope for further increasing collaborative working at institutional and local authority levels to better attract the increasing levels of funding into the region through funds including Innovate UK, the Agri-food+ Network and National Lottery, as shown by the Agri-food Launchpad and the “WBRID” Net Zero Farming project led by Ambition North Wales.
- 5.9 Although in their relative infancy, supporting and strengthening Food Partnerships across North Wales will enable local authorities to link and scale best practice at community and local levels. There should also be consideration given to the role that Food Partnerships can play in efforts to alleviate food poverty and increase access to healthy and nutritious food across the region. In this context, there is scope to design food charters, defining the goals of each Food Partnership. However, it is also crucial to ensure that these partnerships engage stakeholders across the food system (including businesses) and do not become exclusionary. As such, there should be continued efforts to include a range of perspectives in partnership discussions to ensure delivery of informed and effective activities.
- 5.10 There has previously been a desire to create a forum for local authority food procurement officers to discuss the shared issues affecting their organisations in the context of public procurement. This type of collaborative

²³⁴ Cymru Can (2023) The strategy for the Future Generations Commissioner for Wales 2030-2040. Available at: [2023-11-20-Strategy-English.pdf \(futuregenerations.wales\)](#)

working should be encouraged and pursued at all levels both within the public sector, but also in the community and business sectors.

- 5.11 At a national level, the existence of Welsh Government's Food and Drink Wales Clusters should be further used as a mechanism to ensure that there is cooperation with businesses across a range of sectors in North Wales and that their views on the future of the food system are factored into decision making. There should also be efforts to ensure that there is sufficient awareness and accessibility of the Welsh Government's overall support offer for the sector among food and drink businesses in North Wales.

Recommendation 3: Promote Community Food to drive demand, boost skills around growing, cooking and nutrition, and to build awareness of agri-food career pathways

- 5.12 Providing support to the model of community food as a potential alternative to the supermarket model is a key enabler in the push to diversifying supply chains and creating a more resilient food system in North Wales. The highly successful 'Can Cook-Well Fed' initiative, as referenced in the best practice examples in section 3.28, is just one example of the positive influence community-based food can have. Local authorities should seek to fund and promote community food initiatives where appropriate, removing restrictions around access to land and working with partners to identify suitable allotments, smallholding sites and processing spaces, enabling small scale horticulture to scale. To create demand, support should be given to community groups enabling them to grow their own produce for community cafes. The best means of improving access to accommodation on site for growers should also be explored, as should working with farmers to de-risk allocation of small parcels of land for horticulture.

- 5.13 While there is an opportunity to develop community food hubs as a viable alternative to the supermarket model, there is also scope to increase the level of supply of local food into large retailers as well. Recent trends have demonstrated a genuine desire among retailers such as Morrisons, the Co-op and Spar to increase their supply of local food. M&S have also been particularly engaged with North Wales food in the region. This should be exploited through seeking funding for and encouraging local producers to attend 'meet the buyer' events such as the "Blas Lleol" events held 2017 – 2020 across North East Wales and attend the various food and drink conferences in Wales as a means of building relationships with these retailers. Specifically, the Welsh Government trade development programmes offer several opportunities in this space.

Recommendation 4: Use public sector procurement to create consistent demand for local producers and strengthen local supply chains

- 5.14 Despite some significant challenges, public sector procurement can act as a leverage point when seeking to shorten supply chains and create a more sustainable food system. Providing a key source of demand, it has the

potential to support local producers, while providing and promoting local, nutritious food to the community, whether that be in schools, care homes or hospitals.

- 5.15 In order to focus efforts, public sector organisations should set ambitious yet achievable goals around the percentage of local produce that makes it onto the public plate by 2030 and 2040 respectively, aligning with recent legislation at a national level, such as the Procurement Act 2023²³⁵ and the Social Partnership and Procurement Act 2023.²³⁶ Procurement teams should have firm plans in place on how they are going to revise procurement criteria to increase weighting away from MEAT to the Most Advantageous Tender (MAT), putting greater emphasis on environmental sustainability, nutritional value and local sourcing. Potential guidelines on suitable toolkits and scorecards to weight these variables can be found in DEFRA report 'A Plan for Public Procurement'.²³⁷ Furthermore, procurement teams can access the recently co-produced resource 'Buying Food Fit for the Future'²³⁸ outlining legal guidance on buying sustainable, local food within the parameters of the Public Contracts Regulations 2015. Attention should also be given to packaging and production methods deployed. Supply challenges should be anticipated and addressed through a complementary programme of work incrementally scaling production – see recommendations below.
- 5.16 In addition, there should also be distinct consideration towards what constitutes social value in the North Wales food context, exploring the feasibility of national social value tools and the most appropriate framework for capturing this.²³⁹ Although based on current procurement procedures and guidelines, the weighting of Gwynedd school meal tenders towards social value should be considered an exemplar in the context of public procurement delivering £1.18 of social value for every £1 spent on produce from North Wales. By implementing a similar approach across the region across all publicly procured tenders, there is the ability to ensure that public sector food purchasing sets a benchmark for the wider market, encouraging suppliers and producers to adopt practices that align with policy.
- 5.17 To realise the potential of public procurement policies, practices are also required to evolve, fostering collaboration between local producers, suppliers, and public sector buyers. All local authorities in North Wales are members of the Welsh Public Sector Collaborative Food Group²⁴⁰, co-ordinated by Caerphilly CBC, which leads on procurement for a wide range of food supplies for the public sector through a framework agreement valued

²³⁵ The Procurement Act 2023 is set to become law in October 2024.

²³⁶ The Social Partnership and Procurement Act 2023 aims to improve food procurement through requiring procurement strategies, improved contract management and increased transparency around data throughout the supply chain.

²³⁷ Department for Environment, Food & Rural Affairs (2014) A Plan for Public Procurement.

²³⁸ Further information at: [Buying Food Fit for the Future \(adobe.com\)](https://adobe.com)

²³⁹ It was pointed out in the workshops that TOMS can work against local procurement, by failing to recognise the benefits of local food and basing value on lowest cost.

²⁴⁰ Welsh Public Sector Collaborative Food Group. Available at: [Welsh Public Sector Collaborative Food Group \(WPSCFG\) Food Framework \[Award\] \(bidstats.uk\)](https://bidstats.uk)

at £2.28m over three years. Local authorities and other signatories are at liberty to procure directly outside of this agreement. The public sector should ensure a fair but inclusive pre-tender engagement process with potential suppliers, clearly setting out expectations.

- 5.18 Training and capacity building for procurement officers on sustainable procurement methods, alongside the establishment of supportive legislative frameworks can aid in facilitating this shift. In this context, there is potential for organisations to engage with the Chartered Institute for Procurement and Supply (CIPS)²⁴¹ where they can attain qualifications and attend conferences linked to sustainable procurement practices and processes.
- 5.19 Finally, the feasibility of forming a procurement consortium for public sector organisations across the region should be further explored, utilising the forum as an opportunity to share knowledge.

Recommendation 5: Enhance the Skills / Training and Education offer.

- 5.20 Enhancing skills, training and education will be critical for bolstering the resilience of the food system in North Wales. Adapting curricula to incorporate intersecting complex challenges including climate change, biodiversity loss, shifting market demands, and technological advancements requires a workforce that is knowledgeable, adaptable, and innovative. Furthermore, with an ageing workforce in the agri-food sector, an improved skills and training provision offers an opportunity to improve both recruitment and retention in the sector, while enabling businesses to scale up.
- 5.21 Linked to the above point about strengthening coordination, creation of a North Wales Food and Farming Skills Cluster – bringing together agri-food specialists from both universities, both further education colleges, Farming Connect, the Regional Skills Partnership and Ambition North Wales - would provide a regular space for discussion and development. This idea has been previously scoped with some regional support identified so should be piloted as a priority.
- 5.22 In terms of training content, there should be a focus on equipping businesses in the sector with marketing and digitalisation skills, especially in relation to social media and online engagement. Current provision around horticulture in North Wales could be reviewed in collaboration with growers to determine how it can best be enhanced or repositioned to capitalise on the demand exhibited elsewhere, described above. The potential around developing new curriculum content in the wider field of Sustainable Food should also be explored through further research. This includes the teaching of a Food Leadership programme focused on developing expertise across key aspects of the food system, which is not currently offered in Wales. If deemed feasible, these developments could also be integrated into present support for entrepreneurship and the small scale sector in North Wales.

²⁴¹ Further information at: <https://www.cips.org/>

- 5.23 There is also a need to increase awareness of the support that already exists through education and training institutions in North Wales. The Welsh Government funded Food Technology Centre in Llangefni offers valuable support to businesses with practical skills in areas such as manufacturing and packaging, product development and testing facilities, as well as accreditation in SALSA and BRCGS. They have supported a significant proportion of regional businesses including Halen Mon, Edwards of Conwy and Sabor de Amor. Another key Welsh Government project run by all 3 of the Food Technology Centres is Project Helix that provides a range of support for small businesses surrounding innovation, efficiency and strategy. Similarly, Farming Connect and Lantra provide courses around agricultural diversification that can meet the needs of the sector.
- 5.24 Furthermore, the Public Health Dietetics Team within Betsi Cadwaladr University Health Board deliver accredited courses and food nutrition to community settings – something which should be used further.
- 5.25 Potential projects to increase the prominence of food in education settings were outlined above. Initiatives promoting cooking and growing skills should be considered in the context of Healthy Weight Healthy Wales, with support given to reduce the prominence of high fat, salt and sugar-based foods in schools.
- 5.26 Restrictions on the accessibility of low-nutritious food around schools and play areas should be considered. Where suitable, the creation of school allotments to provide ingredients for cooking could also be explored. As well as increasing school children’s handling of locally grown fruit and veg, there should also be a focus on increasing children’s exposure to other local produce, such as fish, meat and poultry, through cooking lessons and demos. The inclusion of ultra-processed foods in school meals and within food procurement contracts generally, is also having a negative effect on the health of school children and the wider population in hospitals and care-homes. Emitting ultra-processed foods entirely from the public sector could greatly improve the health of school pupils, with the potential to reduce obesity, malnutrition and other diet related illnesses.²⁴²
- 5.27 Interventions in educational institutions should link with the Welsh Government funded Tasty Careers programme²⁴³ where possible, to reinforce support and opportunities for agri-food careers.

Recommendation 6: Scale horticulture and support diversification of local meat and dairy into local supply chains

- 5.28 In order to increase the resilience of the food system in North Wales to external supply chain shocks, it is critical that the region achieves a more balanced position between international and local food production.

²⁴² Rauber, F., Steele, E.M., da Costa Louzada, M.L., Millett, C., Monteiro, C.A. and Levy, R.B., 2020. Ultra-processed food consumption and indicators of obesity in the United Kingdom population (2008-2016). PLOS ONE, 15(5), p.e0232676.

²⁴³

- 5.29 Through Food Partnership discussions and support to access grant funding and other support, farmers should continue to be supported to diversify production. Repurposing production at county farms and piloting/scaling a coordinated growing scheme (see Project B, below) also offer scalable option.
- 5.30 A lack of access to the latest technology and machinery was cited as a barrier to scaling up and diversifying production in the region. As such, appropriate investments should be made to aid farmers in this pursuit. The creation of a machinery ring membership in North Wales should be explored, which would help match a shortage of machinery and labour capacity on some farms with a surplus on others, thus reducing fixed costs.
- 5.31 As a means of boosting awareness of funding and support, Food Coordinators in the region are considering the development of a regional website promoting local food options, as well as farmer and growers, similar to what has been done by the Brighton and Hove Food Partnership.²⁴⁴

Recommendation 7: Invest in supply and distribution by supporting food hubs, cooperatives and shared distribution networks as a means of reducing food miles and carbon footprint in the food system

- 5.32 The movement towards shortening supply chains undoubtedly strengthens local food systems, offering economic and social benefits for local farmers, producers, businesses and consumers. Furthermore, it delivers environmental benefits through the reduction of food miles and carbon footprint in the food system.
- 5.33 Despite this, many smaller producers face significant logistical challenges with shorter supply chains, such as last mile distribution and overall economies of scale. To mitigate this, smaller producers should seek to strengthen ties with wholesalers, such as Castell Howell and Harlech, which alongside addressing logistical challenges, will also offer a route to market. Local distribution networks across the region should also be strengthened. Creating central hubs as collection centres, as well as establishing cooperatives for growing, processing and distribution will help support in this endeavour.

Levers of Change

- 5.34 While it is important to identify higher level strategic changes that need to take place if there is going to be sustainable and meaningful change in the North Wales food system, it is also important to outline specific actions that can create change and foster momentum.
- 5.35 Following on from the systems mapping exercise, in collaboration with strategic stakeholders, we were able to identify key 'leverage points' where

²⁴⁴ Further Information available at: [Brighton and Hove Food Partnership – We're a non-profit organisation helping people learn to cook, eat a healthy diet, grow their own food and waste less food. \(bhfood.org.uk\)](http://bhfood.org.uk)

specific actions could be taken to drive forward the ambition for a stronger local and more sustainable system in the North Wales food system.

- 5.36 These actions have been ordered according to 'impact', with larger-scale, high impact actions that would be delivered in the longer-term outlined first, followed by smaller scale 'quick wins'. These are outlined below.

Longer-term, high-impact investments

- 5.37 When analysing the processing cluster of the systems map, it highlighted the lack of processing infrastructure across the supply chain in North Wales. As things stand, it appears there is minimal capacity surrounding fruit and veg processing in the region and there is a heavy reliance on one or two key processors in the meat and dairy sectors. This presents a significant challenge when seeking to increase the supply of local produce into the public sector.
- 5.38 In this context, there is a need for further research to carry out in-depth analysis to gauge current and likely future processing capacity across the region.
- 5.39 However, it is also clear there is a need for investment and support for both dairy and abattoir businesses in the region and the associated infrastructure required. The potential around using a mobile abattoir for the red meat sector should also be reviewed.
- 5.40 Although an expensive option, the creation of a centralised processing facility offers the potential to provide year-round supply of local produce into public sector outlets, such as schools, hospitals and care homes. This could offer the infrastructure needed to address logistical challenges when supplying at scale, such as storage, freezing and canning.

Project A: Centralised processing facility for the public sector

The current lack of processing facilities in the North Wales region represents a major gap in the supply chain which acts as a major barrier to strengthening the local food system. This, combined with the drive towards increased public sector demand for local produce, provides scope to create a centralised processing facility in the North Wales region.

The processing facility would use fresh and locally sourced ingredients to prepare meals and other healthy food products for public sector institutions. It would also serve the purpose of providing aggregation, storage and co-manufacturing for local suppliers. Finally, it could act as a source of job creation and workforce development for the food sector.

The facility would include a commercial kitchen, warehouse space, as well as offices and classrooms.

This would enable economies of scale and reduce the burden for smaller producers by consolidating operations, while ensuring the food safety and quality standards of the public standard was met before distribution.

- 5.41 It is important to note that thorough consideration should be given on how any new processing facility would impact the current market. As such there is potential to conduct a commercial impact assessment to ensure minimal displacement and competition in this area.
- 5.42 When reviewing the primary production cluster of the systems map, limited availability of land was identified as a major barrier to diversifying food production in North Wales and across Wales as a whole. As such, it is prudent to identify any best practice initiatives from elsewhere that can be replicated, where relevant, to the North Wales context. Given its early successes and similarity in terms of its rural geography, the Our Food 1200 Project provides a useful initiative to consider.

Project B: Pilot a growing scheme, coordinated across the region

The Our Food 1200 Project has already been cited as a best practice example in this report. In coherence with the wider drive to promote small-scale horticulture in the region, there is potential to institute a similar pilot growing scheme in the North Wales region. This would entail linking up access a portion of land with growing volunteers to implement modern regenerative fruit and veg farming that can supply local markets. The pilot would promote the feasibility of community food in North Wales, hopefully encouraging growers and farmers to diversify into local horticultural production as well.

- 5.43 As a further means of diversifying the production of sustainable horticulture, the suitability of using County Farms should be explored across North Wales, with the potential to let farms to local tenants (potentially leased with lower rents to encourage take-up) under the agreement that a proportion of the land is dedicated to growing horticultural produce. Furthermore, there is scope to use the farms as spaces for education and employment, with the potential for local councils to hire growers, if funding permits. Additionally the site can be a mechanism to promote food in the region through offering on farm accommodation experiences to tourists. An example of the benefits of piloting a County farm as a means of delivering economic, social and environmental benefits is discussed below.

Project C: Diversify county farms to boost scaling of horticultural production

As is currently being piloted in Carmarthenshire, there is scope to identify a potential county farm site in North Wales that has an upcoming vacancy to test a new approach to land management. As the landlord, the relevant Local Authority will have the ability to outline a new tenancy agreement which seeks to deliver benefits to the local community and region as a whole. This may entail the growing of horticultural produce through an on-site market garden, which could potentially supply local schools. This, in turn, could lead to both direct and indirect job creation with new entrants into horticulture. There is also potential for the site to have close links with local agricultural colleges, such as Grŵp Llandrillo Menai and Coleg Cambria, offering work based learning experiences. The adoption of certain agro-forestry practices would deliver environmental benefits such as increased biodiversity and habitat creation, as well as effective carbon capture. The farm could also act as a model to deliver social benefits such as school visits where the relevant tenant / grower would share knowledge with pupils on how they grow produce, allowing them to have practical experiences digging and planting. This would strengthen the connection between younger generations and the origin of local food. Additional benefits for pupils would include outdoor education, real-world experiences and learning in nature, resulting in their improved health and wellbeing. The farm could be opened out as part of a wider programme of social prescribing, providing opportunities for people with poor mental health or special learning needs to engage with food production. If successful, the model could be rolled out to other county farms across the North Wales region.

- 5.44 We recognise that there are several notable barriers that may prevent the utilisation of county farms in this manner across North Wales. This may include a lack of opportunity to pilot a site, with local authorities often experiencing long period before a tenancy becomes vacant. Alternatively, they may be constrained by the legalities within the agreement. There is also financial pressures to consider, with the current portfolio of county farms and agricultural holdings representing a significant cost for local authorities, some are looking to sell them off.
- 5.45 As such, this particular lever of change might not be suitable across the whole region. However, where circumstances are favourable, it should be explored further as a potential lever of change.
- 5.46 While offering financial support to the business sector through various grants and funds is an effective mechanism to incentivise behaviour change, we recognise that larger scale investments will be required to create significant change across the North Wales food system.

- 5.47 In order to ensure sufficient demand for food, there is a need to look, not only at the public sector or local population, but wider markets as well. Located next to the North Wales region, the North West of England offers an opportunity to stimulate the North Wales food system, both internally and externally, with its large population and numerous urban centres, such as Liverpool, Manchester and the Wirral. This market offers an opportunity for North Wales food businesses and producers to increase sales and turnover, which can subsequently strengthen the economy of the region. However, there is a need to increase awareness of the value of North Wales food in the area. We believe this can be achieved through an annual promotion event, as discussed in Project D.

Project D: Strengthen supply chains into the North West of England through piloting a “Wales Week Liverpool”

Based on Wales Week London – the annual event that showcases a wide range of activities and events that celebrate and promote Wales – there is potential to host Wales Week Liverpool. This event will celebrate Welsh culture and heritage, promoting Wales to the North West of England.

Given its geographic proximity, there will be an opportunity for North Wales food businesses to promote their products, alongside strengthening partnerships and connections with organisations in North West England, stimulating market demand.

The event can also serve as a forum to increase awareness of North Wales food to the wider audience in the Liverpool region, encouraging the general public to visit North Wales and boost the food tourism economy.

In order to determine the best venue for the event, a postcode analysis from Visit Wales data can take place, identifying the areas in North West England where people most frequently visit North Wales. Alternatively, there is scope to establish the location at an already existing event in the North West region which is known to have high footfall, such as the annual Liverpool and Manchester food festivals.

- 5.48 There is widespread acknowledgment of the need to strengthen the education offer surrounding food for both children and adults, with the lack of cooking skills today a symptom of poor food literacy, which in turn, negatively affects obesity and diabetes, as well as food poverty.
- 5.49 As highlighted in Section 3, there are currently several initiatives taking place across the North Wales region that are also seeking to address this issue, as well as the Healthy Weight Healthy Wales Project, the Wrexham Schools Growing Project and the youth engagement work being led by the Wales Culinary Association. These also be supported and leveraged, and where appropriate, be encouraged to scale-up. In particular, there should be a focus on increasing exposure and accessibility to local North Walian

produce, providing the necessary skills to enable people to cook with these ingredients in their own home.

- 5.50 As part of this wider effort, there is potential to formally integrate cooking and growing skills into the school curriculum as a means of engaging younger generations.
- 5.51 One potential approach to address this is the adoption of a 'Chefs in Schools' Programme as set out in Project E.

Project E: Implement a Schools Food Programme to boost pupils' food literacy and enhance school caterers' skills

Inspired by examples including the Chefs in Schools Charity²⁴⁵ (London, Bournemouth and Sheffield) and Food For Life (operating across Scotland and six counties in England) there is scope to build improve the standards of school food and food education in Welsh schools. The programme would enhance the skills of catering staff in cooking local, fresh produce (including, but not limited to fruit, vegetables, seafood and shellfish) maximising the nutritional value of school meals and minimising waste. Trainers could have responsibility for delivering practical food education focused around healthy local produce.

This programme would strengthen the connection between younger generations and food, increasing their food literacy and the likelihood of engaging with the purchase local food in the future. In the immediate term, there is also potential to increase parental and household engagement with local food with children sharing their experiences. For the school catering staff, it would ensure they are preparing meals that deliver maximum nutritional and health benefits to pupils, while showcasing the best of North Wales produce.

To maximise impact, we would suggest initially targeting schools that are situated in areas of higher levels of socio-economic deprivation, aiming to reduce food poverty, child obesity and malnutrition in the region. Once sufficient demand and proof of concept has been established, there is the potential to roll out the programme.

- 5.52 Delivery of this project, however, would need to ensure sensitivity when being introduced into schools to achieve buy-in from the catering staff, as opposed to alienating them. The co-production of training plans between chefs and catering staff could help minimise this concern. Due consideration would also need to be given as to how participating trainers would be selected, ensuring they meet criteria such as being locally based and Welsh

²⁴⁵ Chefs in Schools. Available at: [Chefs in Schools](#)

language requirements, while also guaranteeing a fair and transparent selection process.

- 5.53 In the context of global conflicts and extreme weather events increasingly threatening harvest and supply chains within the current food system, there is potential for North Wales to position itself as a centre for technology-driven sustainable agriculture, building both food and drink resilience and an innovation ecosystem through strengthening links between agro-ecology and technology.

Project F: Technology-based Centre of Excellence for Sustainable Agriculture and Horticulture

Given the existing education assets in North Wales in the fields of innovation and technology, there is scope to establish a cross-institutional partnership under the Ambition North Wales to bring together expertise at Bangor University, Wrexham University, AMRC Cymru and Grŵp Llandrillo Menai to create a connected centre of excellence in food and drink innovation.

Potential utilisation would include the use of the rural 5G network through DSP to support precision horticulture in difficult to manage areas or the monitoring of vulnerable adults in the community to ensure sufficient supplies of nutrition as a health prevention programme.

This activity could build on the proposed Agri-Tech launchpad for Mid and North Wales, which is seeking to fund innovative projects that directly benefit the agriculture and food sectors.²⁴⁶

- 5.54 Despite the relative proximity of Harper Adams and its Agri-tech Research Centre there is potential for the proposed Centre to carve out a unique offering. However, it is important to note further investigation beyond this research will be required to test and evidence the feasibility of this project among stakeholders. There is also a need to continue to scope ideas surrounding food nutrition and technology, potentially supporting Wrexham University's proposal for establishing an RD&I Centre at Northop, linking their Horticulture Wales and Nursing Work.

Quick wins

- 5.55 In recognition that there are significant logistical challenges and other barriers to be overcome in the delivery of the above projects, we have also outlined projects which may be easier to deliver in the shorter-term.
- 5.56 This research has highlighted the importance of diversification as a means of strengthening local and regional food systems in North Wales. While farmers and growers diversifying into horticultural production has been a key focus, there is also a need also ensure that the whole food and drink sector

²⁴⁶ The Agri-Tech Launchpad for Mid and North Wales is currently still under development.

operates in a way that minimalizes any negative environmental impact and promotes sustainability and the circular economy.

- 5.57 Therefore, there is an opportunity to offer financial support to those in the food and drink manufacturing sector who implement innovations around carbon savings or invest in renewable energy as part of their operations. This could complement the Green Growth Fund, administered through the Development Bank of Wales and the Future Proofing Fund offered through Welsh Government.
- 5.58 It is important to note there are also existing training initiatives at a national level which could further this endeavour, such as the decarbonisation and sustainability training offered through the Sustainability Cluster, Sustainability Training Programme and Decarbonisation Workshops organised by Welsh Government's Food and Drink Skills Wales and the Carbon Reduction Plan pilot and Climate Adaptation and Resilience training available through Farming Connect. In the North Wales region businesses also have the ability to access the Green Digital Academy delivered by the Food Technology Centre.

Project G: Refocusing of the Smart Local Energy Project

The North Wales Growth Deal 'Smart Local Energy Project' was identified as a potential asset that could incentivise businesses to shift to low-carbon energy sources and/or improve the energy efficiency of their buildings. As things stand, the fund, when its launched, will support innovative enabling projects and demonstrators that overcome market failures and unlock private and community sector investments in smart local energy solutions.

However, there is potential to use the Project as a fund in a more targeted way to support and prioritise the decarbonisation of food manufacturing businesses specifically to support energy security in this critical area of the North Wales foundational economy.

- 5.59 The ring-fencing of the fund could deliver multiple benefits to the region by targeting financial support where it is most needed. This includes strengthening the competitiveness of North Wales agriculture and food businesses (by putting them ahead of companies reliant on fossil energy sources), reducing regional emissions in a key industrial sector, and strengthening regional food resilience. If there was oversubscription for support among potential beneficiaries, health benefits could also be gained by shifting emphasis within the competition away from the manufacture of high fat/high sugar products – creating coherence with the policy priority of North Wales LAs of reducing rising health bills, as identified in the systems map.

- 5.60 As highlighted, providing appropriate financial support for smaller businesses will be a crucial enabling factor in creating a stronger local food system in North Wales.
- 5.61 The suggested projects below have identified potential opportunities to support SMEs with additional, strategically placed funding. While there is an already existing network of support available for start-ups at a national level through various initiatives and organisations already outlined, it is important to recognise that the relatively complexity and multifaceted nature of the landscape may result in some businesses not accessing certain support. As such, there is an opportunity to bolster current support with new initiatives (see below), while continuing to review the awareness and accessibility of national initiatives among SMEs in North Wales.

Project H: Funding for start-up processing businesses

Recent analysis of the support landscape of food and drink businesses in North Wales demonstrates that while there is support for SMEs through Cywain, Business Wales and Hwb Mentor, among others, there is potential to strengthen support available for business start-ups in the processing sector, specifically.

Firstly, rapid roll-out of the food grade incubator spaces linked to and supported by the Glynllifon Rural Economy Hub would incentivise start-up businesses and support high-quality, efficient production. Demand for such incubator spaces has been indicated across all six North Wales counties.

Secondly, Given the importance of building the capacity and infrastructure of processing in the region due to a current shortfall, there is potential to offer additional funding to processing businesses. Where funding criteria for this support can be influenced by the North Wales partners, selection criteria should prioritise funding for businesses building resilient supply chains (balancing global/local ingredient sourcing), reducing carbon emissions and improving biodiversity and health outcomes.

Project I: Financing for food and drink manufacturing businesses in North Wales

Our recent evaluation of the Food and Drink Innovation Capital Investment Programme has highlighted that several North Wales food and drink businesses engaging with AMRC Cymru are unable to embrace the Centre's recommendations for large scale commercialisation due to the significant costs and resource constraints associated with it.

Bridging this gap between innovation and commercialisation is an ongoing challenge for the food sector in North Wales. As such, there is an opportunity to provide financial loans to such businesses to help them implement the changes that would enable them to scale-up and increase

their overall resilience. In order to provide the support intended, the repayment terms of the loan would need to be favourable for businesses, affording them the necessary time to economically benefit from the investment.

- 5.62 Supporting start-up businesses will expand the economic base within the sector, capitalising on the trend towards re-shoring manufacturing. Given the high prevalence of SMEs in the food and drink sector in Wales, providing appropriate financial support offers opportunity for widespread economic growth for businesses in the sector, which can result in job creation, strengthening the North Wales economy as a whole.
- 5.63 Socially, it is crucial to continue to support start-up businesses financially, to ensure the region continues to retain its unique characteristics and profile within its business landscape – something which was identified as a key strength of the North Wales food system.
- 5.64 By ensuring the continued presence of SMEs in the North Wales food sector, there is also scope to capitalise on the trend towards the re-shoring of manufacturing. This shortening of supply chains will naturally deliver environmental benefits.
- 5.65 Beyond support for manufacturing and processing businesses, food tourism was identified in the systems map as a key lever of change that could help strengthen the food system in North Wales. It was noted that tourists from elsewhere in the UK are impressed by the quality of North Wales food when they visit and often seek to purchase local produce to take home with them.
- 5.66 In this context, there is potential to further showcase the value of North Wales food, both to tourists and the local population, through festivals and events. In recognition that Welsh Government already provide a Food and Drink Wales Small Grant Scheme for food festivals and events²⁴⁷, we suggest targeting grant funding towards establishing food festivals in more deprived urban communities in North Wales, which may not typically take-up existing support on offer.

Project J: Target Food Festival funding to include deprived urban communities in North Wales

Acknowledging that food festivals are often associated with engagement of the middle-classes, there is potential to target grant funding to establish food festivals in more deprived urban communities in North Wales.

²⁴⁷ Food and Drink Wales (2024) Small Grant Scheme – Food and Drink Festivals & Events 2024 – Scheme Guidance. Available at: [Small Grant Scheme - Food & Drink Festivals & Events 2023 - Scheme Guidance.pdf \(gov.wales\)](#)

This would enable previously restricted communities to build a local food culture, as well as encouraging new food businesses to develop in the area. The festivals could also promote food education through activities such as children cookery competitions.

The grant scheme could help new communities showcase the best of local North Wales produce, improving visitor access and awareness of their food and drink offer, providing a unique and quality culinary experience.

The fund could also act as a mechanism to foster collaboration across smaller producers and develop relationships with the hospitality sector, increasing the prevalence of North Wales food and drink on menus and retail offering.

- 5.67 The economic benefits from such a fund would include increased turnover and sales for participating producers, as they have an opportunity to expand their markets and increase awareness of their business among the local population. It would also help strengthen the North Wales economy, encouraging people to spend in the area in which the festivals are held.
- 5.68 Socially, the fund would help strengthen the connection between the local North Wales populace and local businesses, creating a sense of pride in the quality of North Wales produce. It also has the potential to encourage consumers to buy more local beyond the festival itself, which in turn, can strengthen local communities.
- 5.69 The increased consumption of more local, healthy, nutritiously dense produce, as opposed to more processed foods typically found at supermarkets, would naturally deliver health benefits for consumers. In terms of the environment, there is scope to use the event as a mechanism for smaller producers to collaborate going forward, potentially reducing food miles and carbon footprint when it comes to distribution. Upon seeing the value of local produce, opportunities would also exist for retailers, wholesalers and secondary producers to purchase more local produce and reshore their supply chains more locally, which in turn, will also deliver environmental benefits.
- 5.70 Finally, the existence of the North Wales Growth Deal funded Tourism Talent Network (TTN) Project offers opportunities to strengthen the tourism, education and skills offer in the region. For instance, there is scope to integrate a requirement for community training in cooking into TTN training kitchen plans. In coherence with the drive to increase the procurement of local produce, there is also an opportunity to embed the local sourcing of vegetables and meat into chef training. Furthermore, through the TTN there is potential to link with the Chefs in Schools programme outlined in Project E, or alternatively, to lead on the Young Chefs Project with primary and secondary schools across the region.

Roles and responsibilities

5.71 Given the scale and complexity of today's food system, a holistic, systems-wide approach is necessary to create lasting and meaningful change. Therefore, it is critical that all stakeholders buy into the proposed vision, alongside taking a proactive role in instituting the necessary change. The below table outlines what should be the high level roles and responsibilities of the various stakeholders involved in the North Wales region when seeking to create a stronger local food system.

Stakeholder	Roles and responsibilities
UK Government	<p>Providing capital and revenue based funding opportunities for local initiatives and schemes to strengthen local food systems and economies.</p> <p>Ensure coordination and coherence with Welsh Government food policy.</p>
Welsh Government	<p>Establishing a national strategy / vision for the future of the food system across the whole of Wales that draws together economic, social, cultural and environmental considerations, also acting as a central coordinator and facilitator among key stakeholders within the food system.</p> <p>Clear guidance and signposting of available schemes for growers, farmers and businesses.</p> <p>Provide grant funding that supports supply chain strengthening and community resilience (particularly cooking and growing).</p>
Ambition North Wales	<p>Continue to oversee the delivery of the North Wales Growth Deal, identifying suitable opportunities for capital investment opportunities for the agri-food sector across all programmes and projects.</p>
North Wales Corporate Joint Committee	<p>Provide overarching leadership and vision on the role of food in delivering economic wellbeing across the North Wales region, as well as considering agri-food in the development of regional development plans and regional transport plans.</p>
Local authorities	<p>Ensure consideration of agri-food is included in corporate plans and other relevant strategies.</p> <p>Provide funding and incentives, including facilitating Food Partnerships to support engagement across the various sectors comprising the food system.</p> <p>Local authorities should play a key role in coordinating efforts to develop a sustainable agri-food system in North Wales as described above and below.</p>
Housing (LA)	<p>Consider various greenfield and brownfield sites within the local authority boundary that could be made available for local communities to grow and consume local food.</p>
Education (LA)	<p>Seek to increase the levels of food literacy among pupils, increasing the levels of teaching of agriculture and food in local schools including provision of practical cooking and outdoor growing experiences both in school and on farms.</p> <p>Include discussion of agriculture and food as potential career pathways.</p> <p>Collaborate with other public institution to provide cooking education resources for the wider population.</p> <p>Organise 'farm visit days' for the local community.</p> <p>Potential expansion of the 'train the trainer' programmes to improve cooking skills and education in schools.</p>
Planning (LA)	<p>Promote and protect land for food growing as well as promoting food growing in local spaces by emending existing planning regulations.</p> <p>Consider leases to enable food growing.</p> <p>Identify suitable allotment sites and community cafes and outlets to boost supply and demand of community food.</p> <p>Explore feasibility of repurposing county farms to create smallholdings and improve access to accommodation</p> <p>De-risk the allocation of small parcels of land by farmers for horticulture.</p> <p>Protect the development of healthy food shops and markets, potentially restricting the development of fast food near schools.</p>
Economic Development (LA)	<p>Design strategies that use food as an economic driver, incentivising businesses to grow and sell local food, stimulating local start-ups and supply chain linkages, and seek to build local skills and employment in the food sector.</p>

Procurement (LA)	Amend procurement scoring criteria, placing greater value on locally grown produce, as opposed to the most economically advantageous tender. Seek to increase the prevalence of locally grown food into schools, nurseries, care homes, leisure centres etc. Ensure training and capacity building for procurement officers on sustainable procurement methods. Establish a forum for LA food procurement officer to help overcome shared challenges.
Betsi Cadwaladr University Health Board	Shift emphasis towards procuring greater amounts of local food into hospital meals, acting as a key source of demand in the region. Promote the role that food has in contributing towards the prevention agenda, as well as improving the health and wellbeing of the North Wales populace. Explore potential for a subsidised veg box scheme for NHS and public sector programmes.
Growers	Scale up their operations, increasing the supply of locally grown horticulture into the North Wales. Promote successful local growing initiatives and schemes, championing the sector to increase engagement and recruitment. Sharing knowledge and experience with new entrants.
Farmers and Primary Producers	Implement sustainable and innovate practices to improve resilience and diversify production where appropriate. Farmers can share knowledge and experiences through peer networks. Collaborate with other farmers and growers to minimise logistical costs and create economies of scale. Consider innovation and diversification opportunities for by-products.
Secondary Producers	Increase focus on sourcing of local produce to build business resilience, invest in low-carbon energy generation and energy efficient operations, and ensure processing and packaging methods are as sustainable as possible
Academia and Educational Institutions	Support pilots and scaling of climate-resilient crops and farming practices across North Wales, as well as sustainable food production technologies. . Academia can help educate about farming practices and sustainable food choices, while FE colleges can help businesses develop the skills to upscale. Strengthen the horticulture training offer in the region, scoping where would be best places to host a range of horticulture course at all levels. Collaborate with farmers and growers through schools and further education outreach via careers departments. Explore potential for a 'Food network' across further education facilities and colleges Review Growth Deal projects to consider greater integration of regional agri-food priorities.
Businesses and Retailers	Promote local, sustainable food products, reduce waste, and invest in resilient supply chains (balancing local and wider sources). Retailers can help educate consumers about healthy and sustainable food choices. Consider affordable items alongside prestige markets.
Wholesalers	Continue to purchase produce from local producers, sharing information with customers regarding the quality and origin of products. Act as a key player in the drive to increase the supply of local produce into the public sector, minimising distribution costs for local suppliers.
NGOs and Community Organisations	Advocate for sustainable food systems, support community food initiatives, and engage in policy advocacy to promote climate resilience. Support clients to access a balance of healthy, local food alongside processed options.
Consumers	Support local food systems through purchasing decisions, reduce food waste, and participate in community food projects.

List of Annexes

Annex A - Future Food Scenarios in North Wales

- Available as a separate document

Annex B – Methodology

- See below

Annex C – Local Authority Profiles

- Available as a separate document

Annex D – Bibliography

Annex B – Methodology

Our approach

The methodology adopted for this research study aimed to provide a comprehensive, stakeholder-focused, and flexible approach to provide actionable insights into enhancing the resilience of the North Wales food system. The approach is rooted in a holistic, systems-based understanding, to ensure all elements of the food system – from sourcing and production to waste – and the stakeholders who support this system were given due consideration throughout the research.

In recognition of the multifaceted challenges and risks faced by the food system in North Wales, the methodology was designed to highlight avenues for growth, adaptation, and resilience-building within the North Wales context. Emphasis has been placed on understanding what the future food system should look like in North Wales, factoring in the trade-offs and tensions that exist when seeking to create a more sustainable, locally focused food system.

Scoping stage

Contextual review

The research commenced in February 2024 following an inception meeting to establish a clear set of objectives, outcomes, and risk management strategies, as outlined in the Project Manual. An extensive desk-based review was undertaken which provided an in-depth understanding of the Welsh food system and the key enablers, barriers and risks to its resilience. This also encompassed a review of existing policy at local level, including all six corporate plans of each Local Authority in North Wales. Through the review, we have also identified examples of best practice in shortening supply chains and strengthening local food systems elsewhere at a Welsh, UK and international level. This enabled us to draw out lessons learned and identify critical success factors.

Future Food Scenarios

Future Food Scenarios serve as tools to understand potential opportunities and challenges to the resilience of the food system. Evaluating these scenarios allows stakeholders to consider diverse futures and plan accordingly to steer the food system towards desirable outcomes.

As part of our analysis, we provided an assessment of potential future scenarios confronting the food system in North Wales, analysing key tensions and considerations associated with four proposed scenarios. These future food scenarios have been assessed through the lens of food trends, economic development, food production, public procurement, community, access to food and diet and nutrition.

Mapping the Food System in North Wales

The Strengthening Regional and Local Food Systems approach to systems mapping was driven by the need to comprehensively understand the complexities of the food system in a region or local area. While traditional physical maps offer location and business profiles, their applicability to policy development is limited. Hence, our

approach was for this mapping exercise was drawn from the Systems Mapping Academy's methodology.²⁴⁸

This approach allowed for the consideration of all variables impacting the system, such as consumer demand, distribution, manufacturing capacity, primary production, and skills, within their context. Mapping the relationships between each stage in the value chain and external factors enabled a more holistic understanding of the system's functioning. Leveraging this mapping enabled the identification of key intervention points to address existing gaps and shortfalls in the system.

Our approach to systems mapping entailed a simple five-stage process and is outlined in detail below:

Framing – Defining the purpose of the research and the main issues it sets out to address

Exploring – Gathering intelligence from a wide a range of sources as possible

Mapping – Bringing all the results together into a systems map

Reflecting – Using the map as a means to reflect on where problems occur and to trial possible interventions

Leveraging – Identifying the most effective policy interventions to deliver change

Framing

Most of this element was informed by the original brief, desk research and scoping interviews. The core problem was identified and key evidence for context laid out clearly.

The challenge

Strengthening the North Wales agri-food ecosystem; promoting health, sustainability and economic growth.

Underlying issues

Limited employment opportunities.
Capacity to deliver on future opportunity.
Socio-environmental risks.

This lead to some core research questions to help frame the work:

Research Questions

What are we producing and what could we produce?

What is the scale of potential market demand from public sector and regional retail?

What are the barriers and enablers to developing a stronger food system

²⁴⁸ Systems Mapping Academy, Learn how to navigate complexity. Available at: [System Mapping Academy \(system-mapping.com\)](https://system-mapping.com)

From this we set clear goals and the overall scope of the mapping exercise, ensuring we were clear about what issues were included or excluded from the work.

Goals of the systems map

To identify how we might shorten supply chains and develop a more sustainable food system?

To understand what projects can support this and which might be funded?

Exploring

This part of the process drew heavily on the engagement piece of the research – interviews and workshops with stakeholders. Interview results were summarised in a mind map and then the relevant topics were brought into the mapping process and clustered around a set of identified key themes:

- Primary food production and land management
- Public policy, funding and procurement
- Community food production, access and support
- Processing, distribution and retail

Mapping

Some of the headline issues were subsequently clustered around the four themes above, with the clusters then been placed on the map and the relationships between them plotted, to show how one variable can influence others. An image of the Systems Map is demonstrated in the figure below.

Reflecting

Upon completion of an initial draft, the research team held an internal session to reflect upon the contents of the map, seeking to sense check whether it accurately represented the food system in North Wales and if there were any elements which needed to be added or removed. The interrelationships between elements was also interrogated, as was the framing of issues.

To ensure the robustness and validity of the map, these questions were also posed to key strategic stakeholders at a separate systems mapping workshop held in mid-April 2024.

Leveraging

As part of the same workshop, we held discussions with strategic stakeholders around the key leverage points that could be used to implement change across the North Wales food system. These leverage points were subsequently categorised a level of priority according to their impact versus feasibility.

Due to the existing mapping activity that is already taking place among food coordinators in the region, we avoided creating a producer map at this moment in time. This will be revisited during the reporting period once a thorough review of

existing mapping activity has taken place. We have however analysed existing mapping data from each local authorities' Food Coordinators which is assessed along with case studies from each county. This can be found in Section 4.

Fieldwork

Qualitative Interviews

As already referenced, to contextualise and explore the themes identified during the scoping phase, a series of qualitative interviews were conducted with a sample of key specialists across the food system in North Wales. The aim of these interviews was to gain an in-depth understanding of the landscape of the food system in North Wales from stakeholders who play a critical role in the North Wales food system. The interviews explored the key strengths and weaknesses of the current North Wales food system, followed by an appraisal of the barriers and enablers to a stronger local food system. Stakeholder recommendations on the most appropriate way forward, including potential funding sources and groups to be involved, were also sought.

Overall, at the time of this report, 17 qualitative interviews have been conducted with stakeholders across the food system²⁴⁹, including select members from Ambition North Wales and the Agri Food and Tourism Programme Board, Local Authority officers, Food Partnership Coordinators, representatives from Betsi Cadwaladr University Health Board, third sector organisations, training providers, wholesalers, and farming union representatives.

Engagement events (x5)

In order to further our understanding of the North Wales food system, five engagement events were held during March 2024. Each workshop was targeted towards different stakeholder types including educational institutions and further education colleges, third sector and community groups, growers, public sector representatives, and farmers and primary producers.

Each workshop focussed on assessing the current strengths and weaknesses of the North Wales food system and the opportunities to improve its resilience. They also assessed key barriers and enablers in the local food system and collaborated to identify leverage points and possible solutions to shorten supply chains and develop a more sustainable food system in North Wales.

Further, more tailored research questions were then posed to each workshop to delve deeper into specific stakeholder expertise, capacity and priorities. These additional tailored discussion points are outlined in the table below:

Table 8.1 – Tailored Workshop Discussion Points by Stakeholder type

Groups	Key points
1. Education institutions, such as Higher Education (HE) and	<ul style="list-style-type: none"> • Identify the skills and training needs in the food sector in North Wales • Assess levels of demand for food-related training courses in the region

²⁴⁹ Additional interviews took place in early April 2024.

Further Education (FE) colleges. ²⁵⁰	<ul style="list-style-type: none"> • Identify current gaps in training provision in the region • Discuss opportunities to strengthen the skills and training offer in the region • Explore supply and demand considerations in relation to school meals • Assess barriers, risks and opportunities associated with procuring local food • Explore existing/possible assets that would support strengthening the local food system
2. Third sector organisations, community groups, housing associations. ²⁵¹	<ul style="list-style-type: none"> • Identify best practice examples occurring at the community level • Identify barriers and enablers in increasing the supply of and access to local food • Discuss current access to land and availability of skilled growers • Explore economic, environmental and social benefits that a more community-based food model offers • Explore existing/possible assets needed to strengthen community food system
3. Public sector organisations in the region. This will include Local Authority and Health Board teams. ²⁵²	<ul style="list-style-type: none"> • Explore the role of the public sector in creating demand for local suppliers • Discuss public sector responsibilities and opportunities in managing and governing the food system in North Wales (health, planning, energy, transport etc.) • Identify key barriers and enablers faced in the public sector (e.g. finance, procurement criteria etc.) • Identify 'levers of change' to strengthen local and regional food in North Wales • Explore existing/possible assets that would support strengthening the local food system
4. Growers, and specific fruit/veg distribution and retail. ²⁵³	<ul style="list-style-type: none"> • Identify best practice examples of commercial growing or growing with pathway to commercial growing • Identify barriers and enablers in increasing the supply, distribution and consumption of local fruit, veg and plant protein

²⁵⁰ 10 participants attended the workshop for education institutions.

²⁵¹ 5 participants attended the workshop for third sector organisations, community groups and housing associations.

²⁵² 15 participants attended the workshop for public sector organisations.

²⁵³ 7 participants attended the workshop for growers and specific fruit/veg distribution and retail.

	<ul style="list-style-type: none"> • Discuss current access to land and availability of skilled growers • Explore economic, environmental and social benefits strengthened local food production • Explore existing/possible assets needed to strengthen local food system
<p>5. Farming unions and large scale primary and secondary producers.²⁵⁴</p>	<ul style="list-style-type: none"> • Explore potential opportunities / risks at front-end of supply chain from increasing public sector demand for local produce (meat, dairy, seafood, veg, fruit) • Discuss how this demand would be influenced by requirements for different models of land management – e.g. regenerative/traditional farming vs conventional / high-input farming • Barriers and enablers associated with diversification, innovation and investment • Explore existing/possible assets that would support diversification/ strengthening the local food system • Identify suitable support mechanisms (beyond those proposed in the Sustainable Farming Scheme (SFS))

Source: Miller Research

Analysis

Qualitative analysis

Following this engagement, a thorough thematic analysis was conducted, identifying areas of overlap and points of difference between stakeholders from the fieldwork phase. This in turn, informed the recommendations.

Recommendations

The recommendations in the report have been developed in collaboration with stakeholders to ensure feasibility and to leverage existing food initiatives and best practice within North Wales. By building upon these initiatives and identifying best practices, recommendations will be formulated according to different stakeholders in the North Wales food system.

As an extension of the recommendations, potential regional projects that would require either capital or revenue based funding have been identified. These have been refined and finalised through a series of systems mapping workshops which took place in April 2024.

Reporting

Findings workshops

²⁵⁴ 11 participants attended the workshop for farming unions and large scale primary and secondary producers.

Following all fieldwork, we brought together an initial analysis of results to refine our findings and the systems map. We worked with key stakeholders to disseminate the findings, identify levers of change and generate early buy-in for the recommendations produced by the research. Workshops were held in April and with attendees from the following:

- Agri-food and Tourism Programme Board
- North Wales Food Coordinator Roundtable

Report

The final output of the research is a written report (this document) detailing the current state of the North Wales food system, assessing vulnerabilities and risks to its resilience, and offering strategic recommendations for strengthening the local and regional food system and shortening supply chains. Key actions relevant to each stakeholder group linked to the food system in North Wales is also outlined.

Annex C – Local Authority Profiles

Please see separate annex documents set out for each local authority in North Wales including review of Corporate Plans, mapping analysis, and summaries good practice.

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