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Horticulture Across Four Nations

A report by the Landworkers' Alliance (2024)

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Landworkers Alliance

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Executive Summary

We need to produce more vegetables in the UK to improve both public health and the resilience of our domestic food supply. At present we import 43% of our vegetables, while 77% of adults are eating less vegetables than the recommended amount[1]. To meet the need for UK vegetables, we have a vision for upscaling the number of agroecological market gardens in the UK, and for 20% of the £2.7 billion we currently spend on imports to be spent instead on UK-grown fresh produce, distributed to households by farmer-focused routes to market and to primary school pupils through public procurement.

Organic and agroecological market gardens have the potential to contribute significantly to rural regeneration, local economies and community resilience while bringing multiple environmental, social, employment, financial and productivity benefits. As this report shows, not only would re-orienting our vegetable supply away from imports and towards home-grown produce provide more households with a fresh and dependable source of vegetables, but it would also generate a wealth of benefits in terms of public health, environment, and social benefits. Research suggests that for every £1 spent locally, £3.70's worth of benefits are generated locally. If the UK was to spend 20% of the money it currently spends on imports on domestic production instead, we could potentially see around £2 billion worth of benefits generated for local communities.

Examples already exist throughout the UK of highly productive and sustainable market gardens, some of which are collaborating to supply urban or rural populations. For example, Growing Communities has evolved over 25 years to supply Hackney households with fresh produce, which is sourced mainly from their own peri-urban farm and a mixture of farms within a fifty mile radius of London. Knockfarrel Produce, a croft in the Scottish Highlands, is generating over £18,000 per hectare as a market garden as opposed to the £320 per hectare it was previously generating as low quality sheep grazing pasture while supplying 250 households. Middle Ground Growers, near Bath, is training up new growers, who are going on to set up additional market gardens nearby, creating a growing network of sustainable suppliers of agroecological vegetables..Market gardens are also exploring how to access public procurement contracts. In 2022, the Cardiff Courgette Pilot supplied 29 primary schools in Cardiff with locally grown, agroecological courgettes for a three week "Food and Fun" summer holiday activity camp. The initiative now supplies 10 tonnes of a variety of different vegetables into school meals across three counties in South Wales.

Yet, although active and ambitious, the market garden sector is small and woefully lacking in adequate support. Our vision of expanding the sector is limited by lack of access to land, investment capital for equipment and infrastructure, inadequate training opportunities and planning constraints.

Landworkers Alliance and allied organisations are working on multiple fronts to overcome these challenges. However, we need the devolved governments of Northern Ireland, Wales, Scotland and England, and local authorities across the four nations, to support us in achieving this vision. We therefore conclude this report by outlining the key policy recommendations that would unlock the potential of a market garden renaissance across all four nations.

1 Defra (2023) Horticulture Dataset, 8th June 2023; Food Foundation (2021) Veg Facts 2021

List of case studies

Introduction

1. Our Vision for a UK Market Garden Renaissance

We have a vision for a market garden renaissance that would increase the resilience of our fresh produce supply, inspire people to eat more vegetables, address pressing environmental problems such as biodiversity loss and climate change and attract a new generation of horticultural workers by creating a variety of satisfying and skilled work opportunities. Increasing UK agroecological vegetable production on market gardens and farms to replace 20% of the value of current imports would bring the following benefits:

- Vegetables are more likely to be eaten and benefit people's dietary health, due to high quality public engagement.
- Improvements in mental health, increased physical exercise and community connection as volunteering, social prescribing and community supported agriculture blur the boundary between producer and consumer.
- Improvements in the health of soils and nature, by avoiding the use of pesticides, artificial fertilisers and other agrochemicals and integrating measures to encourage biodiversity such as minimal tillage, nectar rich green manures and stalky field margins.
- Achieve net zero or carbon negativity by individual market gardens sequestering more carbon in soils, hedgerows and woodlands than they emit from cultivation, delivery, refrigeration and other energy use.
- More money kept circulating in the local economy, rather than leaving the UK to pay for imports.
- Improved well-being of growers and others working in the food system, through customer connection, appreciation and better prices.

1.1 We need more vegetables!

The UK needs to produce more fruit and vegetables. We are currently not eating or growing enough fresh produce here in the UK, which is causing chronic ill health, costing the NHS billions of pounds annually, and means we are reliant on imports for 43% of vegetables and 85% of fruit. We need to be ambitious and visionary to revitalise the horticulture sector, increase the resilience of our domestic fruit and vegetable supply and persuade new entrants into the rewarding work of horticulture. This report sets out how a market gardening renaissance across all four nations of the UK, focussing on the local and regional supply of organic and agroecological fresh produce throughout the UK, could enable the UK to shift 20% of the £2.7billion currently spent on vegetable imports, to domestic production, thereby keeping an additional £588million circulating in local economies..

Furthermore, it is essential that conventional fruit and vegetable suppliers, selling through supermarkets and to industrial caterers, are able to continue and expand their production to contribute to import substitution and meeting public health

recommendations to eat 5-7 portions per day. At present, however, domestic production is declining due to the combination of cost price increases and static supermarket prices contributing to diminishing margins, and the struggle to secure sufficient labour for both harvesting and cultivating crops. Over the last five years, the area producing field vegetables, outdoor fruit and protected fruit and vegetables has declined from 154,360 to 141,095 hectares.[2]

At present, only 33% of adults and just 12% of 11-18 year olds eat the five portions of fruit and vegetables a day recommended by Public Health England.[3] Meta analysis of research indicates that diets that are low in vegetables and legumes are associated with 18,000 premature deaths annually.[4] In 2022, combined UK fruit and vegetable production was 3.05 million tonnes, whereas supply (home production plus imports minus exports) was 8.24 million tonnes.[5] To supply current F&V consumption (3.9 portions per day), 6.9 million tonnes is required, while for "5-a-day" 10,856,947 tonnes and for "7-a-day" 15,199,096 tonnes would be required.[6] If the whole UK population were to start eating 5-7 portions per day, we would need to treble production if not multiply it by a factor of five! Clearly, allowing for waste, a huge increase in home production would be required to meet the current demand, without being so reliant on imports, let alone to meet demand were the whole UK population to follow public health guidance.

This report doesn't set out to make the case for 100% UK self-sufficiency in fresh produce. The demand for produce that can't be grown in the UK climate and the current contraction of the UK horticulture sector mean imports will continue to be necessary, if we are to increase fruit and vegetable consumption in line with public health recommendations. Instead, we make the economic, environmental and social case for dramatically increasing the number of market gardens, organic farms and farmer-focused distribution networks, to substitute for 20% of imports by value, and replacing vegetables that we currently import, but could grow here, with locally grown agroecological produce. Our focus is on vegetables, as fruit presents an additional set of challenges, which are beyond the scope of this report. However, many market gardens do produce modest amounts of fruit alongside vegetables, and have ambitions to produce more. In addition, we call for a strategic approach to the whole edible horticulture sector, to improve its sustainability and productivity, and address issues of fairness in the supply chain to reverse the current decline in production and further increase import substitution.

2 Defra (2023) Horticultural Statistics 2022, Table 1 - Areas

3 Food Foundation (2021) Pease Please Veg Facts 2021, p6.

4 Ibid. p5

5 Defra (2023) Horticulture Dataset 8th June 2023

6 Fruit and Vegetable Alliance (2023) Cultivating Success: Priorities for increasing sustainable production to meet growing demand.

1.2 Risks to Resilience

Many of the countries from which we import fresh produce are already suffering the impacts of climate change. In 2013, 32% of UK fruit and vegetable imports were from areas defined as climate vulnerable, a 60% increase since 1987, while 54% of produce comes from water scarce countries such as Spain, Morocco and Israel.[7] In addition to climate change, increasing political instability and energy costs make over reliance on imports unwise. The energy price rises resulting from the Russian invasion of Ukraine sent shock waves through the whole food system. Perishable fresh produce relies on affordable energy for timely transportation and refrigeration. Local production can both reduce energy costs of food and increase the resilience of our supply, if a more strategic approach is taken to building domestic production capacity.

It is irresponsible to rely on imported vegetables, which could be produced here in the UK while allowing our domestic production capacity to decline. Home production currently accounts for 54.7% of cauliflowers and broccoli, 44.5% of lettuces and 15.8% of tomatoes consumed domestically, while home production of apples, pears and plums accounts for 39.8%, 13.7% and 13.8% respectively.[8] All of this produce can be produced in the UK, some of it for most of the year, and there is no reason why these, and many other crops which we currently import couldn't be produced in the UK in much greater quantities.

1.3 Is agroecology the answer?

We talk predominantly about agroecological market gardens in this report rather than organic, due to the distribution component of agroecology. Organic is the only legally certified definition of sustainable farming, but agroecology goes one step further in terms of using "farmer focused routes to market" which aim to ensure that farmers and other workers in the supply chain are paid fairly.[9] Organic food can be sold through supermarkets, which don't always pay fairly, whereas agroecological growers do not sell through supermarkets. Such farmer focused routes to market currently represent less than 5% of the market. Yet they represent an opportunity for the sustainable production of fresh fruit and vegetables, close to where it will be eaten and the potential for fulfilling and skilled jobs which will attract a new generation into horticulture.

Growing Communities is one such "farmer focused route to market". It is a social enterprise which has been supplying organic fruit and vegetable bags to customers in the London Borough of Hackney for over 25 years via a subscription-based weekly veg scheme and a weekly farmers market. A cost benefit analysis estimated that Growing Communities generated £6,293,700 in economic, commercial, social, and environmental value in 2019/2020, from £1,688,600 of costs

7 Goudie, S. (2020) Is the UKs supply of fruit and vegetables future proof? SHEFS Briefing No. 1, Food Foundation and Welcome Trust, p6

8 Defra (2023) Horticulture Dataset 8th June 2023

9 Farmer focused routes to markets are food retailers that are committed to selling organic and agroecological produce, and working with farmers and their local communities to create a better food system that delivers healthy food at a fair price to all who work in producing and distributing it (see Better Food Traders).

(including the opportunity costs) giving it an overall cost-benefit ratio of £3.73 of value generated for each £1 of costs.[10] This value includes benefits generated from more environmentally friendly farming practices, the health benefits from a better diet and social interaction from being part of a community, and improved wellbeing of workers in all parts of the business (from farmers to packers) due to better pay and feeling appreciated.

Growing Communities sources its produce according to a principle led approach, central to which is the concept of Food Zones, which identifies and prioritises foods that can be sourced from different distances from the city (see page 12). In 2018, Growing Communities initiated the Better Food Shed, a central trading depot for organic vegetables and fruit, enabling suppliers from the rural hinterland around London to deliver produce for multiple box schemes to one place. Market gardens in and around London, running their own box schemes, became able to deliver surplus produce to the Better Food Shed, whilst ordering and collecting vegetables to supplement their own produce to fill their vans on the return journey. This integrated system has helped smooth the peaks and troughs of annual supply for individual box schemes, while enhancing access to London markets for regional organic producers.

Other cities across the UK are developing similar farmer focused supply chains, and are now supported by Better Food Traders.[11] In rural areas, individual market gardens and organic farms and orchards either sell directly to the public, through CSA schemes, farmers markets or farm shops, or deliver to independent retailers and caterers. Increasingly rural market gardens are collaborating via trading networks to increase their capacity to supply throughout the year.

In recent years, the advent of dynamic procurement systems have enabled smaller producers to access public procurement contracts for school meals and hospital food. Where the political will exists, there is the potential for local and agroecological vegetables to be included on school menus. Indeed, the Government Food Strategy (2022) declared an ambition that, "public sector food should be healthier, more sustainable and provided by a diverse range of local suppliers".

This report calculates what it would take to substitute 20% of the current value of vegetable imports with agroecological vegetables, produced on market gardens and supplied to households via farmer focused routes to market and to primary school children through public procurement. We discuss the change in attitude that is necessary to embrace and enjoy the seasonal eating that would facilitate this resilient supply. These calculations are presented amidst case studies of market gardens and farmer focused routes to market, which illustrate the environmental, social, health, employment, productivity and financial benefits of an expansion in agroecological market gardening. When the Growing Communities multiplier, described above is applied, the financial benefit is further magnified, while evidence suggests that people who buy from farmer focused routes to market are likely to eat more vegetables, bringing potentially significant public health benefits.

10 Jaccarini, C., Lupton-Paez, M. and Phagoora, J. (2020) Farmer focused routes to market: An evaluation of the social, environmental and economic contributions of Growing Communities. New Economics Foundation.

11 Better Food Traders is a UK-wide network that supports and promotes ethical food retailers who sell locally grown, planet friendly food.

1.5 Just part of the solution

Our vision of many more agroecological market gardens and farms, and farmer focused routes to market should be viewed within the wider context of a thriving UK horticulture sector, operating alongside, rather than instead of field scale vegetable, orchard fruit production and glasshouse production. LWA is eager to see Government policy that incentivises a transition of all horticulture toward more climate and nature friendly production methods, while ensuring fair trading practices and a framework that ensures the welfare of horticulture workers. To encourage healthier eating habits and meet the demand for fresh fruit and vegetables, should the whole UK population start to eat "five-a-day", it will require growers of all scales and production system types to work together. Indeed, alongside fresh vegetable consumption, we are aware that UK supply, whether domestic or imports, also includes frozen vegetables and those needed for processed foods. Our vision for every city, town and village having access to a sustainable supply of locally and regionally produced fruit and vegetables is just part of a bigger picture that we all need to work towards.


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2. A Mixture of Distribution Models

2.1 The strengths and weaknesses of modelling

Our vision includes "tasty, fresh and affordable fruit and vegetables for all". Every person in the UK, whether living in a city, town or rural area, should have access to affordable, highly fresh, fruit and vegetables produced locally using organic methods and sold via a decentralised network of farms and market gardens. These would either collaborate around a box scheme or food hub, to feed an urban population, or act independently and sell directly to customers via a CSA scheme, farmers' market or deliveries to independent shops and restaurants. This report is a step towards quantifying how we could achieve this vision

Models are, by definition, an abstraction and simplification of reality. Our methods are based on real figures, collected from a limited number of existing projects but extrapolated to find out the value of vegetables in different scenarios of "scaling out".[12] Ideally it would be possible to draw from a much larger pool of data, to even out anomalies created by local conditions. At present, however, there are few working examples of the food zones, and resource constraints mean it has not been possible to collect financial data from a significantly large pool of market gardens. This modelling exercise is presented in the knowledge that it is a crude "first attempt" and in the hope that it will stimulate investment in the data collection and research necessary to create a more accurate and sophisticated model.

2.2 The Food Zones Model

The Food Zones Model, as pioneered by Growing Communities (GC),[13] is a set of principles to guide a supply system, in which food is sourced primarily from direct links with urban (5%), peri-urban (17.5%) and rural (35%) growers. What can't be sourced directly from growers in these three zones is supplemented with food bought from wholesalers who source their produce from the rest of the UK (20%), Europe (15%) and further afield (5%). While prioritising local and regional fresh produce, the model recognises that many people still enjoy a certain amount of imported produce. The only produce GC purchase from outside Europe is bananas, which are considered a staple and are extremely difficult to source from within Europe.[14]

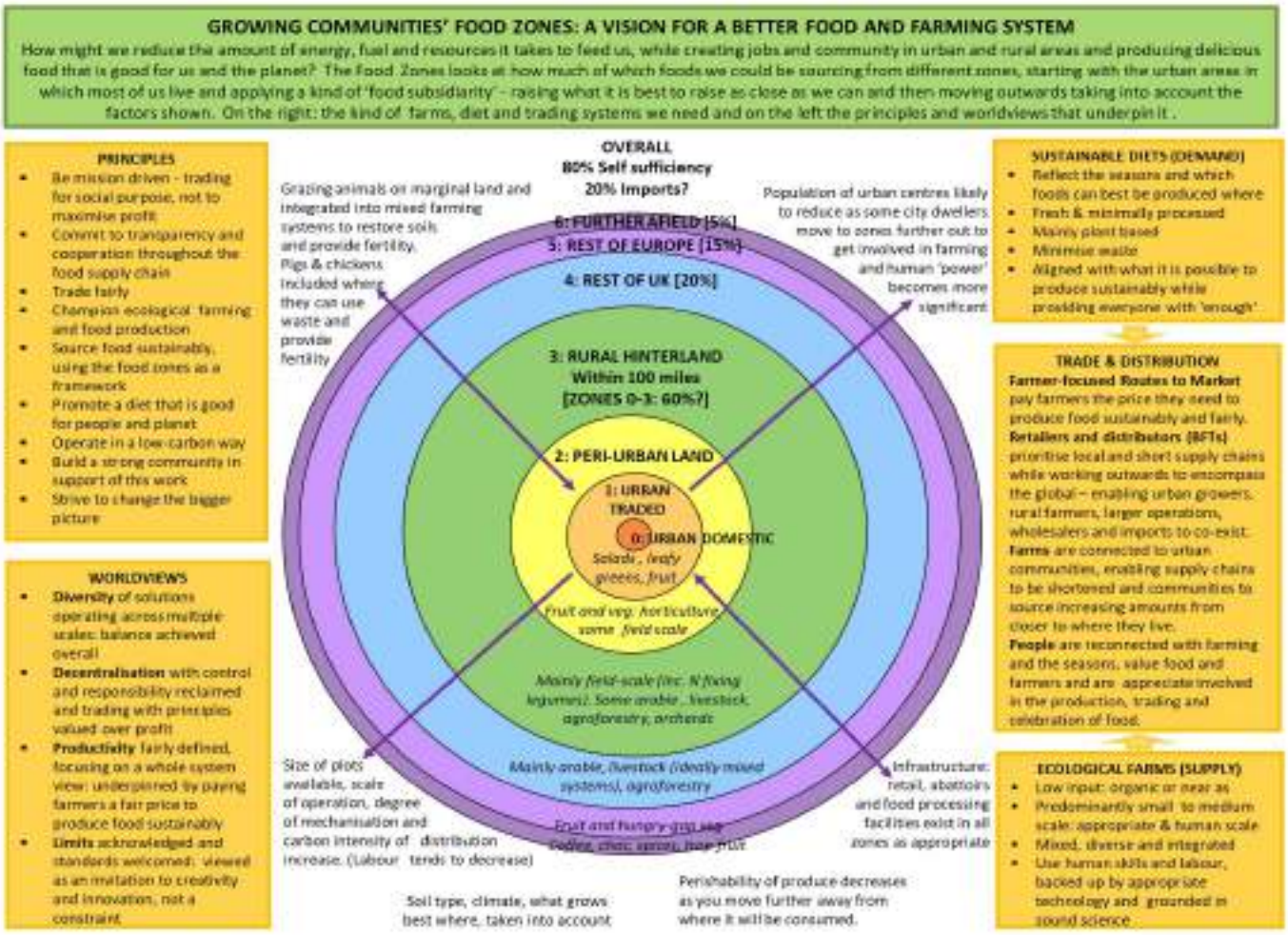
At present, only a handful of regional supply systems that apply the Food Zones principles exist in the UK, the most notable and long established being Growing Communities in Hackney (see "A Market Garden Renaissance" pamphlet for diagram and case studies of GC Food Zones), and maybe include a link in the e-version). For example Regather Sheffield (see page 13) is a worker owned community co-operative which supplies 650 fruit and vegetable boxes to Sheffield households. Organic produce is sourced

12 "Scaling out" refers to increasing the number of market gardens and farmer focused routes to market, rather than increasing their size

13 To read more about the Food Zones Model visit https://growingcommunities.org/food-zones

14 Ibid. Jaccarini et al. *supra note 10*

Fig 1 - The Food Zones Model illustrates the percentages supplied from different zones around a settlement in an idealised supply system, along with the wider principles of the model.



from their own farm and 6 others in the local area. Tamar Grow Local is another co-operative, which is helping revitalise the horticultural traditions of the Tamar Valley, by making land available to new entrant growers and providing a marketing platform via its food hub. Another example exists in Manchester, where the Kindling Trust have been working since 2007 to coordinate and support vegetable production, grower training and distribution in collaboration with other local businesses. All four - Growing Communities, Regather Sheffield, Tamar Grow Local and Kindling Trust - are characterised by their organic and community focus, as well as prioritising providing a fair price to their suppliers, fair wages for their employees and opportunities for training and public engagement. Other cities are supplied by more informal networks of suppliers, which could evolve into food zones systems, while every year more new market gardens emerge as new entrants gain the skills and land they need to start growing commercially.

2.3 Market Gardens and Farms

Alongside the groups of market gardens and farms that are selling into collaborative models guided by food zones principles, throughout the UK there are hundreds of other individual market gardens

Case study 1

Example of a Food Zone Model: Regather Sheffield

Zone 2: Wortley Hall Walled Garden is an 1acre (0.4ha) historic walled kitchen garden built in the 1790s, which today makes up part of Heeley City Farm. It contains vegetable beds, perennial crop areas, an orchard, a fruit tree nursery and polytunnels and is managed by a full-time grower assisted by numerous volunteers. Formal training activities include hosting apprentices and running a vocational qualification in horticulture. They also host visits from many schools, colleges, corporate groups, gardening societies and open days for the public.The walled garden yields over six tonnes of produce every growing year, which it sells through direct sales to caterers, local shops and garden visitors, as well as wholesale. Another half tonne of vegetables is taken home by volunteers.

Zone 3: Since 2020, **The Regather Farm** has grown vegetables on a leased site near Sheffield. They estimate that they grow approximately 5 tonnes of vegetables per year, and they sell virtually all their own produce through their veg box scheme which has been running since 2012, using bought in veg. Along with an acre (0.4ha) of market garden, the farm also has 3 polytunnels employing no-dig techniques, as well as 2.5 acres (1ha) of field scale growing, some perennials, an orchard, two ponds and other wildlife habitat areas.

Zone 3: The organically certified **Hazelhurst Fruitery** (3 acres/1.2ha), started in 2010/11. It consists of 1ha of fruit trees, with other areas dedicated to soft fruit, willow coppice for wood chip production and a small forest garden. In the season August to December 2022, they harvested and sold 9095 kg of organic fruit, through a farmer's market stall, a weekly 'fruit box' scheme, and through direct sales to caterers and local shops. Hazelhurst runs a small care farm called Sheffield Growing Experience, offering supported work experience to people with autism and learning difficulties. Through links with Sheffield University, they have hosted many visits and events for students, customers and business leaders.

Zone 4: Organic North (ON), a wholesaler based in Manchester, supplements produce from the local Regather suppliers with produce from 50 UK and 25 EU farms, plus a few EU wholesale suppliers. They allow growers to set the prices, and are careful not to undercut their regular suppliers. They also minimise waste by only selling what they are offered each week by their suppliers. Such farmer focused behaviour, based on trust and good personal relations, has built a co-operative, which is thriving after 25 years and is one of the five largest organic wholesalers in the UK.

and organic farms growing and selling vegetables. Many of these operate completely independently, selling their produce to their own pool of local customers. These include growers selling direct through box schemes or farmers' markets, and market gardens supplying restaurants, cafes and independent shops. Many businesses operate a "portfolio strategy" growing primarily for their own box scheme, but using farmers markets as a "shop window" for a box scheme or the more flexible catering market to sell surpluses.

Other growers collaborate on an informal basis, trading with neighbouring market gardens when they have surpluses. Many smaller growers buy in bulky low value crops like potatoes, onions and carrots from larger farmers or wholesalers to supplement their own produce and enable them to concentrate on producing higher value and more labour intensive products, such as salads, herbs, beans and tomatoes.

What distinguishes agroecological growers from conventional ones is their level of customer engagement. For growers selling directly, there is likely to be weekly contact with customers either at the market, during deliveries or via a newsletter. Chefs will be kept abreast of what is in season, while farmers' market customers can ask questions about farming practices, and often customers will have an annual opportunity to visit the farm for an open day. Customer engagement is taken to another level with Community Supported Agriculture (CSA), a model of connection between farmers and those who eat their produce, which shifts the business risk from being solely the responsibility of the farmer to being shared with the community that supports them.

While there are various models of CSA, in its purest form it is a scheme in which customers commit financially to the farm for the year by buying a share (either at the beginning of the season or by paying monthly throughout the season), for which they receive a share of whatever is harvested each week. Unlike a vegetable box scheme, where customers are guaranteed to receive an even value of produce each week, with a CSA the amount of vegetables in the box might vary weekly according to what

Case study 2

How Growers Use a Mixture of Markets to Maximise Their Income

Little Bishops Organics in Devon run their own 40 share CSA, they also sell at the twice monthly Cullompton Farmers' Market and via wholesale markets. They generate an additional income by saving and selling seeds to a local company, Vital Seeds.

Ed's Veg in Hampshire grows mixed vegetables on 2.5 acres (1ha) of free draining loamy sand, built up with green manures and compost mulches. Cultivation is done mostly with hand tools, assisted by a small tractor. Vegetable crops are rotated across permanent beds, with rows of fruit trees that form wildlife-friendly buffer alleys in between crop courses. The business has been built up from wholesaling to local pubs and independent shops, and more recently to a large organic wholesaler in London. Ed's partner April has now started up a twice weekly box scheme supplying 30-50 households in the local village.

Case study 3

Two Contrasting CSAs

Five Acre Farm is a 8.5 acre (3.4ha) site in peri-urban Coventry, and includes a 5 acre field growing vegetables in an organic crop rotation. It was founded in 2012 and now employs 2 FTE workers and has 58 members, many of whom regularly volunteer at the farm, helping with planting, tending, weeding and harvesting. The business is funded via members' annual subscription to a weekly share of the harvest and produce is sold exclusively through the weekly box distribution. **Five Acre Farm is therefore a CSA in its purest form, with no produce being bought in or sold elsewhere to supplement income.** A full box share usually includes between 8 and 12 items (£45 for a half share per month, £72 for a full share). This generated a turnover of £57,100 in 2022, whilst their expenses (including salaries) totalled £56k. During the pandemic, capacity was pushed up to supply 65 boxes. Approximately 17 tonnes of fruit and veg were harvested in 2022.

The CSA offers various outreach activities, including courses, open days & CSA work parties (work-share events), wreath making workshops, a hedge laying course, wassailing, a pruning workshop, summer BBQs on the field, preserving workshops, the annual members meeting, and farm tours. They also host corporate staff away days. For example, workers from the local Rolls Royce factory came and helped plant a hedge/create a fence around the site as a team building exercise.


© Five Acre Farm

Plotgate Community Farm in Somerset provides not only vegetables, meat and eggs for its members, but is a local hub of horticultural training, composting, volunteer opportunities and seasonal social celebrations. Year-round veg boxes are supplied weekly to 90 members, but during lockdown this number went up to 120, with the majority of produce being grown on-site on 3 acres (1.2ha). In 2022 Plotgate had a turnover of £83,823. **Some winter root veg and 'hungry gap' produce for the veg share boxes is bought in from neighbouring organic growers and excess produce is sold to a local shop and to caterers, but the main focus is on supplying the members.**

Plotgate Community Farm has three main growers, who are all part-time, but involves a total of three FTE, when trainees and volunteers are counted. They have 20 regular volunteers helping with the growing, harvesting, and packing, as well as distribution, communications and recordkeeping tasks. Since 2019 they have also taken on 2-4 trainees each summer (April until September) and, due to the popularity of the traineeship, an Autumn/Winter trainee joined in 2022. Trainees, volunteers and others are able to participate in "Growing Skills" courses run on site, which can lead to City and Guilds Practical Horticulture or similar qualifications. Plotgate also runs informal training on craft, horticultural and off-grid technology themes. In 2022 they held two well-attended weekend 'skillshare' events, with a daily programme of workshops. They host open days with the Somerset Food Trail initiative and independently. These outreach events aim to increase access to the farm, with opportunities to become part of the farm's community of supporters. PCF also has stalls at local shows and fairs and holds a festival-style "Plotgate Picnic" onsite for members and others.


© Plotgate

is in season and the success or otherwise of the harvest. A summer or autumn harvest may be abundant and the week's share worth far more than the average box value, whereas in other seasons, such as the hungry gap between April and June, the share might be more meagre. Box scheme type CSAs supplement their own produce by buying in vegetables from other local growers when supplies are less abundant or diverse, making them more appealing to customers less willing to share risk.

Members of a CSA are generally more involved in the farm than if they were simply box scheme customers. They will be kept abreast of farm news via regular newsletters, are encouraged to visit the farm regularly, get invited to farm-based social events and may be expected to contribute to community work days. CSA is a form of "deep public engagement", in which members build a strong understanding of the farm. Their members are far more than customers, due to the involvement they have in the farm whether this is through volunteering, sharing the financial risk or attending regular, seasonal events. At present, the CSA Network UK has approximately 200 member CSAs.

2.4 Public Procurement

In the UK, public procurement using organic, local vegetables and fruit is less developed than household purchasing through box schemes, farmers markets, food hubs and other distribution systems. Isolated examples exist where wholesalers, growers and NGOs have worked together to access large contracts for school catering let by local authorities, health services and other public bodies. These include the Cardiff Courgette Pilot (see case study below) and the Soil Association's Food For Life scheme, which for its silver and gold awards requires a minimum of 5% and 15% respectively of organic ingredients to be used in public or commercial catering.[15]

Several local authorities have made commitments to support the decarbonisation of their food supply or to buy from local and smaller scale food producers, through initiatives like Sustainable Food Places.[16] The most well known example is Bath and North East Somerset Council's dynamic procurement system, pilotted in 2016 to make a public procurement contract for 7000 meals more accessible to smaller, local farmers.[17] Another initiative is the signing by the London boroughs of Hackney, Hounslow, Lambeth and Newham of London's Food Purchasing Commitment in a move to reduce the environmental impacts of the food they buy and serve across council services and deliver against their net zero and consumption-based emissions targets. The Commitment contains targets to reduce per plate carbon emissions by 38% by 2030 and to reduce food waste by 50% by 2030. Growing Communities is now exploring how the network of organic vegetable suppliers can help these London boroughs meet their commitments.[18]

The potential for public procurement to transform the sustainability of the food system is significant. Public sector bodies, such as schools, hospitals and prisons, spent an estimated £2.4billion in 2010 on

15 Food For Life Criteria for Bronze, Silver and Gold awards.

16 Sustainable Food Places is an initiative which aims to make healthy and sustainable food a defining characteristic of where people live by supporting the creation of local food partnerships between local authorities, civil society, local businesses and academia.

17 Dynamic Food Procurement (2016) Case study for the provision of school food in Bath and North East Somerset.

18 ReLondon (2023) Hackney, Hounslow, Lambeth and Newham councils pave the way in London's food system transformation.

Case study 4

Public Procurement in South Wales

Market gardens, schools, councils, a wholesaler, local food partnerships, horticulture training providers, public health advocates, food hygiene experts and others have been working together to test and demonstrate how to get more local agroecological veg into the schools in Wales.

An initial Pilot in 2022[1] came out of a "Peas Please" pledge by wholesaler Castell Howell to get more local veg into schools. Public health charity Food Sense Wales brought the wholesaler and Blas Gwent, a newly established veg farm close to Cardiff, together to grow and supply courgettes for 29 Cardiff primary schools for a three week summer "Food and Fun" programme. The wholesaler was willing to subsidise the 90p/kg difference in cost between conventional courgettes (£1.60/kg) and organic ones (£2.50). In total, nearly one tonne of courgettes were supplied, of which some were used in cooking activities, while others were used in "courgette art".

This '**Courgette Pilot'** led to the Welsh Government agreeing to fund an expanded Welsh Veg into Schools pilot in 2023[2] bringing in Bonvilston Edge in Glamorgan, Langtons Farm in Crickhowell, with potential for other farms to join. Schools in Monmouthshire, Carmarthenshire and Cardiff received a full range of vegetables from the scheme with both summer programmes and term time supply trialled. School children also went out to the farms involved, for example, Langtons Farm hosted 9 classes and a total of around 270 school children from across Monmouthshire. The pilot also included the development of bespoke audit standards to enable small scale growers to supply into the public sector, and tackling a major barrier to entry.

1. Wheeler, A. (2023). Courgette Pilot: Agroecological Welsh veg for primary schools in Wales. Action research evaluation on behalf of Food Sense Wales.

2 Food Sense Wales (2023) Welsh Veg Into Schools available here: https://www.foodsensewales.org.uk/good-food-movement/pilot-project-welsh-veg-in-schools/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procuring food and catering services, of which £1 billion was the cost of food and ingredients. An EFRA Committee on Public Sector Procurement of Food (2019-21) found that being part of the EU was not, as is frequently implied, a barrier to public bodies supporting British producers, and recommended that greater efforts were made to support public sector market access for domestic producers. The Government Food Strategy (2022) expressed an aspiration that, "50% of its food expenditure is on food produced locally or to higher environmental production standards such as organic, Linking Environment and Farming (LEAF) Marque or equivalent, while maintaining value for money for taxpayers".[19]

Where the political will exists, it is possible to harness the economic power of public procurement, as demonstrated by the example of Denmark. The 2012 policy goal of 60% of food being served in public canteens being organic by 2020 has been a driver in the success of the country's organic sector. Although this particular target has not yet been met, more than 2,500 commercial kitchens in Denmark have been awarded the Organic Cuisine label, achieving gold (90-100% organic), silver (60-90% organic) or bronze (30-60% organic) awards. These include 139 out of 800 public kitchens in the City of Copenhagen using 90% organic ingredients in their meals, and the kitchens of the Randers Hospital, which achieved a Gold Award in 2016 for serving healthy, seasonal, organic meals cooked from scratch. The Randers Hospital initiative has resulted in greater job satisfaction among kitchen staff. It has been achieved within the same budget framework as prior to the transition to organic, by reducing food waste, using less meat and semi-processed food and more lentils and seasonal ingredients.[20]

The Danish transition to using organic food in public procurement has been achieved by gaining political support for organic farming across the spectrum of political parties at national and municipal level, as a result of over three decades of campaigning by Organic Denmark, an association of organic companies, farmers, professional kitchens and consumers. Denmark was the first nation to draw up an organic action plan in 1995, and since then the Danish Government has actively used organic farming as a tool in broad national policies for the protection of nature, drinking water supply, climate, green growth, and rural development. At local level, cities and counties have used organic conversion to protect nature and drinking water resources.[21]

2.5 The Role of Larger Scale Growers

Although agroecological market gardens are the focus of this report, it is not our goal to make the case for a fruit and vegetable production system that is exclusively supplied by small and medium scale growers. The need for more resilient fruit and vegetable supply demands a revitalisation of the entire UK edible horticulture sector, including large scale organic and conventional producers across the field scale vegetable and orchard sectors, as well as protected cropping. Indeed, the Food Zones model relies for 20% of its production on a thriving larger scale organic fruit and vegetable sector in the UK to supply the wholesalers that

19 Secretary of State for the Environment (2022). Government Food Strategy. Department for Environment and Rural Affairs.

20 Organic Denmark (2020). The Organic Way - The Danish Model, p27.

21 Ibid, p20

supplement the urban, peri-urban and rural direct suppliers.

Furthermore, it is essential that conventional fruit and vegetable suppliers, selling through supermarkets and to industrial caterers, are able to continue and expand their production to contribute to import substitution and meeting public health recommendations to eat 5-7 portions per day. At present, however, domestic production is declining due to the combination of cost price increases and static supermarket prices contributing to diminishing margins, and the struggle to secure sufficient labour for both harvesting and cultivating crops. Over the last five years, the area producing field vegetables, outdoor fruit and protected fruit and vegetables has declined from 154,360 to 141,095 hectares.[22]

While there are environmental measures that the LWA would like to see adopted across the horticulture sector, including further reductions in the use of agrochemicals, greater crop diversity and a reduction in dryland peat cultivation (to reduce greenhouse gas emissions), we recognise the skill and investment embodied by the edible horticulture sector and do not want to see this lost. A desirable outcome would be for both small and large scale growers to be sufficiently resourced by the Fruit and Vegetable Aid Scheme, the Environmental Land Management Scheme (E.L.M.S.) in England, the Sustainable Farming Scheme in Wales, Scotland's Tier 2 Agricultural Payments Scheme and Northern Ireland's Farm Sustainability Payment Scheme, to make a rapid transition to more sustainable production practices, while doubling the area producing horticultural crops, to reduce our reliance on imports and meet public health demand.


© Joanna Jacobs, Soil Association

22 Defra (2023) Horticultural Statistics 2022, Table 1 - Areas

3. Quantifying the Market Garden Renaissance

3.1 Food Zones across all four nations

The Food Zones model is based on the experience of Growing Communities, who have developed a farmer focused vegetable and fruit supply system over 25 years in the London Borough of Hackney. As well as their bag scheme, which supplies 1600 households (of who 1400 live in Hackney) with weekly bags of vegetables, Growing Communities also runs a weekly farmers market and operates urban and peri-urban farms, which also sell produce directly to the public (off-farm sales). Their annual survey of veg bag scheme customers consistently reveals significantly higher than average consumption of vegetables and fruit. The latest survey found that 85% of customers eat 5-10 portions of fruit and vegetables per day. National statistics show that just 33% of adults and 12% of children were getting their five-a-day.[23]

What would happen if everyone in the UK were to have access to a scheme like Growing Communities? How much veg would we be buying and eating, and how much would this reduce our reliance on imports?

The calculation opposite focuses on vegetables, as current capacity for local and regional veg supply is significantly greater than for fruit, mirroring national statistics for fruit and vegetable imports. While at present approximately 15% of vegetables

23 Tobi, R., Wheeler, A., Gurung, I. and Sutherland, J. (2021) Veg Facts 2021. Food Foundation - Peas Please.

Figure 2: Calculating the amount that could be spent within local food vegetable supply chains if everyone across the UK had access to a scheme similar to Growing Communities

1	UK Population	67,026,292	ONS figures
2	No. of households in the UK	28,200,000	ONS figures
3	Average household size	2.36	ONS figures
4	Average weekly household spend on fresh vegetables	£4.20	ONS figures
5	Average UK spend on fresh vegetables per week per person	£1.78	Row 4/ Row 3
6	Total amount spent on vegetables annually by UK households	£6,202,772,107	Row 1 x Row 4 x 52
7	Population of Hackney	260,000	ONS figures
8	Amount spent on vegetables in Hackney per year	£24,061,017	Row 5 x Row 7 x 52
9	Annual vegetable sales via Growing Communities	£1,098,364	GC sales figures 2022/23
10	% of vegetable sales in Hackney that are sold via Growing Communities	4.56%	Row 9/ Row 8
11	Amount that could be spent within local food vegetable supply chains if everyone across the UK had access to a scheme similar to Growing Communities	£283,151,105	Row 10 x Row6

sold via the GC veg scheme are imported from Europe, it is technically possible to grow them all in the UK, and this model assumes such import substitution, due to further adjustments towards seasonal eating. What is significant about this calculation is that people across the UK would be eating more vegetables than average, as demonstrated by the GC annual survey cited above, which would have a significant positive impact on public health.

Growing Communities isn't the only scheme operating using the principles of food zones and farmer focused routes to market at present, but it is currently one of the larger ones. A number of other cities have, independently, developed their own farmer focused routes to market, while Better Food Traders, the UK-wide network exists to support and promote ethical food retailers who sell locally grown, planet friendly food. Lessons learned by Growing Communities are being shared through this network to facilitate the development of more farmer focused routes to market, centering on cities and towns.

In rural areas independent growers are developing ways to work collaboratively to increase year round fruit and vegetable supply to box schemes, CSAs, food hubs and farm shops. The reality is that each region and devolved nation will need to develop its own version of farmer focused routes to market, depending on geography, climate, population density and other factors. While some growers will prefer the simplicity of just supplying their local market, whether through a CSA or box scheme, or delivering to independent retailers and catering outlets, others will see the advantages of collaboration and inter-grower trade. In the ten years since LWA began, there has been a proliferation of market gardens and other local food enterprises, but few statistics exist to show the growth in the number of horticultural enterprises. The CSA Network UK, which also began in 2013, has seen the number of CSAs in the UK has increased six fold, from 33 to 200, and the majority of these are predominantly horticulture based. This has been achieved with no Government support for CSAs and modest funding from grant giving trusts. What could be achieved in another ten years, with growing awareness of the risks to the environment from poor farming practices? In Wales, a 2020 horticulture survey showed there were 204 edible horticulture businesses, and this figure had increased to 312

Case study 5

The Good Food Loop

The Good Food Loop is a network of four food hubs in Devon and Cornwall, which are all part of the Open Food Network. By joining together food hubs, which are a form of "online farmers' market", the farmers selling through the food hub reach a larger market, increasing their viability, while the customers of the food hubs have access to a larger range of local produce. The producers can also order from each other, creating a mutually beneficial wholesale system. A key aim of the Good Food Loop is to minimise the amount of road traffic to join producers to the hubs they are supplying, so each week a van travels between the food hubs distributing produce to where it is needed. By taking vehicles off the road, carbon emissions are reduced, while the online ordering system facilitated by the Open Food Network, cuts waste as only food which is ordered leaves the farm. Of the 34 producers who sell through The Good Food Loop, 15 are fruit and vegetable growers, while a further three are adding value to fresh produce by making juices, sauerkraut or fruit leathers.

by 2023, an increase of 50% in three years.[24] How much greater would the increase be if Government policy recognised the multifunctional benefits resulting from agroecological horticulture.

3.2 Two portions veg in every primary school lunch

The ultimate vision of the Cardiff Courgette Pilot, described on page 17, is that every primary school meal in Wales would contain two portions of agroecologically grown Welsh vegetables. This would create a secure market for 5331 tonnes of vegetables worth £15 million, creating business for 100 market gardens employing nearly 1000 people and requiring a doubling of the area of field scale vegetables currently produced in Wales. Surprisingly, this would only require 0.04% of Welsh farmland.[25]

Applying the same method used in the Courgette Pilot, the table below shows an extrapolation of the Welsh vision to find out what it would take for every primary school child in the UK to receive two portions of agroecologically produced vegetables as part of their school lunch throughout the year. The 109,804 tonnes of additional veg needed to achieve that, could be supplied by an additional 2033 x 3 hectare (7.5 acre) market gardens growing a total of £304.6 million worth vegetables.

24 Results of 2020 baseline horticulture survey for Tyfu Cymru (Grow Wales) and 2023 figure from pers.comm. with Farming Connect Horticulture Stats.

25 Wheeler, A (2023) Courgette Pilot: Agroecological Welsh Veg for Primary Schools in Wales. Food Sense Wales.

Figure 3. Calculation of the value of fruit and vegetables if every primary school child in the UK were to have two portions of vegetables per school lunch supplied via schemes similiar to the Cardiff Courgette Pilot

	Wales	England	Scotland	Northern Ireland	Total
No. primary school children	26,6574	464,7851	388,920	181,075	5,490,185
Tonnes needed for children to eat 2 x 50g portions per school lunch	5,331	92,957	7,778	3,622	109,804
No. hectares needed to grow veg for school meals	296	5,164	432	201	6,100
New 3ha market gardens supported	99	1,721	144	67	2,033
No. jobs created for growers	948	16,526	1,383	644	19,521
Value of extra output of veg supplied into primary schools	£14,809,667	£258,213,944	£21,606,667	£10,059,722	£304,690,000

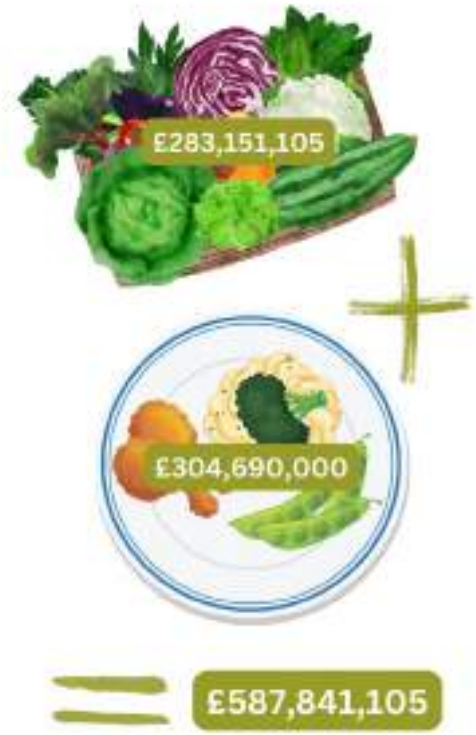
3.3 Shifting spending to UK veg

Our aim in this report is to make the case for a radical increase in the number of agroecological market gardens selling via "farmer focused routes to market", which would bring multiple environmental, social, health and economic benefits. In the introduction, we outlined why substituting imports with domestically produced vegetables is wise at a time when climate change, rising energy costs and political instability threaten the resilience of the fresh produce supply chain. Our calculations in the previous two sections have shown the value of vegetables that would be produced if agroecological horticulture were scaled up across Scotland, Wales, Northern Ireland and England to enable all UK households to have the same level of access to organic vegetables as household in Hackney (£283,151,105), and all primary school children to have two portions of agroecological veg as part of every school meal (£304,690,000). **The total value of these sales to households and for public procurement would be £588 million, which represents 21% the amount the UK currently spends on importing vegetables.**

It would therefore be fair to say that if we re-directed 21% of the value that the UK currently spends on vegetable imports, and instead spent this money on vegetables produced by agroecological, local and regional supply chains, then we could estimate that around **£2 billion** worth of benefits could be generated locally. This is based on the findings from the Growing Communities' study that for every £1 spent locally £3.70 is generated in benefits.[26]

3.4 Feasability

While such production for households and public procurement represents a massive scaling up compared to current production, the fact that it has been achieved in Hackney indicates that it is feasible. It does appear, however, that compared to Cardiff, Belfast and Glasgow, on metrics such as "gross median weekly pay" and "gross disposable income per head", Hackney is higher than the national average.[27] While it is a challenge to make agroecological produce affordable to a wide demographic, especially during a cost of living crisis, our model is assuming that only5% of local or regional "spending on fresh produce" in any given area is needed to make this model viable. In other words, if 5% of the population, who might also be better off, shift their shopping habits to buying local organic vegetables from a "Better Food Trader" like Growing Communities, there would be sufficient markets for the increased production.



26 Jaccarini, C. et al. *Supra note 10*

27 Office for National Statistics (2023) Subnational indicators explorer.

Furthermore, multiple initiatives across the UK are addressing the accessibility of agroecological produce by pioneering solidarity box schemes,[28] fruit and veg prescriptions and Alexandra Rose vouchers.[29] The Accessible Veg Pilot[30] explored the barriers and benefits to providing CSA memberships to food insecure households and found that small, easily accessible grants of up to £5000 were sufficient to help farms establish a solidarity veg bag scheme or other social innovation to circumvent barriers to participation for food insecure households. As public caterers at the Randers Hospital in Denmark have demonstrated, substituting organic produce in public sector catering can be achieved within the same budget by cooking from scratch, reducing waste, replacing some meat with plant based protein and minimising semi-processed ingredients and using produce when it is in season and therefore cheaper (see page 18).

3.5 Seasonal veg: far more appetising than turnips!

In February 2023, when a cold spring in Spain and the unwillingness of UK supermarkets to pay the resulting higher prices for salad imports led to shortages, the Environment Secretary, Thérèse Coffey, told us we should adapt to more seasonal eating patterns. Unfortunately turnips, the example she suggested, are not the most appetising or inspiring vegetables for most people, giving the impression that seasonal eating is a hardship no-one should have to endure. As market gardeners know, as the days lengthen in February, plant growth speeds up, with the result that salads and other green, leafy veg start to produce abundantly. It would be entirely possible to be self-sufficient in salad vegetables in February, just using unheated polytunnels, while many growers manage to continue a modest supply of salad leaves throughout the winter. Furthermore, throughout the winter, a diverse range of appetising seasonal produce is available including leeks, parsnips, cabbages and kale. This can be supplemented with produce stored from the autumn with minimum technical intervention, including squash, beetroot, onions and carrots. Seasonal eating is a joy that we can embrace, rather than a hardship to be avoided. A change of attitude towards seasonal produce is essential to creating a more resilient supply system, but will require significant cultural

28 A solidarity box scheme subsidises lower cost boxes for people on a lower income with funds raised by charging a higher price to customers willing to pay for a "solidarity" box.

29 See Bridging the Gap, a project exploring ways to make climate and nature friendly food accessible to people on low incomes.

30 Verfuerth, C. and Sanderson Bellamy, A. (2022). Accessible Veg: A pilot project exploring the barriers and benefits to CSA memberships for food-insecure households. TGRAINS Programme

engagement to address the expectation that all produce should be available all of the time.

Analysis of fresh produce self-sufficiency by the Food Foundation in 2018[31] revealed some startling facts about how reliant we are on imports for produce. In a list of 39 of the 50 most popular fruits and vegetables, 12 are not produced in the UK at all due to needing a warmer climate. As the table in appendix A shows, we are importing well over 50% of some vegetables and fruits that could be produced in the UK all year round, such as lettuce, or produced and stored to provide year round supply, such as dessert apples. Other produce on the list is more seasonal, tomatoes (80% imported), cucumbers (75% imported) and courgettes (66% imported), but with adaptation of eating, cooking and buying habits it would be possible to be 100% self sufficient in all these vegetables without great impoverishment of our diets.

Increasing our domestic supply of those vegetables that we currently import to a large degree represents a market opportunity worth millions of pounds, much of which could be flowing to UK growers rather than being spent on imports. For example, if lettuce imports were replaced by salad leaves grown all year round in the UK, an additional £208.8 million would go to UK growers. Apart from examples like lettuce, spinach, carrots or beetroot, where year round supply would be possible through better crop planning or storage, for the majority of vegetables people would have to adapt to eating produce only when it is in season. It is possible for people to learn and change their eating habits, as Growing Communities has demonstrated with the annual survey for its box scheme which shows that it is helping customers to eat more seasonally than before they joined.[32]

3.6 What about fruit?

The discussion above has focused on vegetables, and yet it is fruit that is the main type of fresh produce we import (85%, as opposed to 43% of vegetables).[33] Fruit represents a big challenge, not least because society has come to expect a huge variety of fruits that are grown in tropical climates. Many UK grown fruit are also highly seasonal, resulting in out of season imports. For example plums are 85% imported, due to UK plums only being available from July to October. However, there is room for significant improvement in substituting for fruit imports. Advances in strawberry production mean we are now 67% self-sufficient. With dessert apples, for which we are only 30% self-sufficient, it is technically possible to supply all year round from the UK. By combining storage with growing a mixture of modern disease resistant apples, and traditional early, mid season and keeper apples, it is possible to have delicious variety from July when the season starts, through to the following July. As the Food Foundation's analysis of fresh produce self-sufficiency (see Appendix A) shows, prioritising investment in planting and storage for dessert apples to achieve all year round domestic supply, would enable UK growers to benefit from the full £878.7 million value of the dessert apple market.[34] The topic of fruit is, however, beyond the scope of this report and will have to be left hanging for another day!

31 Food Foundation (2017). Farming for Five a Day: Brexit bounty or dietary disaster? Peas Please

32 Growing Communities (2021) What you said: Veg scheme annual survey.

33 Defra (2023) Horticulture Dataset 8th June 2023 ,Sheet 3

34 Food Foundation (2017). Farming for Five a Day. p11

4. The Multifunctional Benefits of Market Gardens

4.1 Environmental

Every year, the imperative for food production to address climate change, biodiversity loss and water management grows more urgent. Organic and agroecological market gardens offer substantial environmental benefits compared to conventional farming practices. By avoiding the use of synthetic pesticides and chemical fertilisers, these sustainable agricultural systems significantly reduce the risk of environmental pollution and harm to non-target organisms. Organic farming practices have been found to result in a decrease in pesticide residues in the soil and surrounding ecosystems, promoting healthier soil biodiversity

Case study 6

Agroforestry, Biodiversity and Carbon Sequestration

After over 30 years in operation, **Tolhurst Organic Produce** is one of the longest established organic vegetable growing businesses in the UK. Based on the Hardwick Estate, west of Reading, Iain Tolhurst and his team grow 120 tonnes vegetables each year, at field scale on 17.5acre (7ha) and in a 2.5acre (1ha) walled garden using "Stock-Free Farming" techniques. Soil fertility is maintained using rotations, multi species green manures and composted woodchip. Produce is sold via a vegetable box scheme (110 customers) and a farm shop (900kg/week sold).

A calculation by the Farm Carbon Calculator in 2012 showed Tolhurst Organic Produce to be carbon negative by 4 tonnes CO2e per year, with 49% of the total 21 tonnes of carbon sequestered coming from increasing organic matter levels in the soil achieved through the extensive use of green manures, and a tillage policy of shallow and timely cultivations. A small woodland (24%), hedgerows (17%) and field margins (9%) account for the rest of the carbon sequestered. Emissions totalling 16.6 tonnes CO2e, are made up of farm operations (diesel used in tractor cultivations and pumping irrigation water 19%); delivery to customers (33%), electricity (17%), green manures (11%, through N2O they release as part of the nitrogen-fixing process), embodied energy in van (6.3%) and materials use and emissions (2.5% minimised by reuse of packing materials).

Tolhurst Organics has been the subject of multiple research studies and wildlife surveys. The soil has been found to contain 1300 worms per cubic metre, and a lepidopterist who regularly surveys there says he encounters more insect species at Tolhurst Organics than at any other site. Resident red kites scout the fields, scanning the rough margins for voles, while the one acre willow plantation, that is the source of ramial[1] woodchip which builds soil fertility, buzzes with insect life throughout the summer.

1 Ramial woodchip is made from young wood of less than 7cm diameter, that has a higher proportion of sapwood to heartwood. It brings multiple benefits to soil health including moderating soil Ph, improving soil moisture retention and slowly releasing nutrients while increasing fungal, bacterial and other biological activity in the soil. For more information, see Westaway, S (2020) "Ramial Woodchip Production and Use", WOOFs Technical Guide No.1, Organic Research Centre.

and improved water quality.[35] Furthermore, these environmentally friendly cultivation methods actively contribute to the preservation of biodiversity by creating habitats and promoting the existence of diverse plant and animal species.[36] Additionally, agroecological market gardens have been shown to sequester carbon effectively, mitigating the impact of agriculture on climate change.[37] The adoption of organic and agroecological practices in market gardens holds great promise in supporting a sustainable and resilient food production system while safeguarding the natural environment for future generations.

Case study 7

Minimising Food Miles and Packaging at a Peri-Urban Farm

Ben Vista Co-operative in Northern Ireland is a fledgling market garden, which was started in 2022 by Barry Ferguson on a one acre (0.4ha) field which used to be an orchard. It is the first step in a succession plan for his family farm, the rest of which is arable land, farmed conventionally by his parents and a neighbouring family.

The farm is located within 8 miles of Belfast city centre, and within a 3 mile radius from the farm are an estimated 3500 households, while the land itself is Grade 1. Barry has big plans for turning the farm into a thriving business, and eventually a community farm, which interacts with other growers in the area to supply Belfast with organic fruit and vegetables, and serve as a community growing hub.

In its second year, 2023, Barry committed to growing potatoes and other vegetables to supply 15 households with large good value food boxes (2 kgs of potatoes, ten varieties of vegetable and a dozen eggs for £15/week) from 0.5 acres. The eggs are laid by his free range flock of 70 hens. All customers live within three miles of the farm, and produce is delivered on the day it is picked, by electric bicycle, so needs no refrigeration and minimal packaging (just the returnable boxes/bags) that the produce iis delivered in, so has the least emissions possible.

At present, Barry has to supplement his income from the market garden with work on a local building site. Access to capital for developing the business and paying for labour to help on the ground is a significant barrier to scaling up, but Barry believes there are many other farmers who would be keen to diversify into market gardening, given the right policy and financial support.


© Barry Ferguson


© Barry Ferguson

35 Reganold, J. P., Glover, J. D., Andrews, P. K., Hinman, H. R. (2001). Sustainability of three apple production systems. Nature, 410(6831), 926-930

36 Altieri, M. A. (1999). The ecological role of biodiversity in agroecosystems. Agriculture, Ecosystems & Environment, 74(1-3), 19-31.

37 Kremen, C., Williams, N. M., Thorp, R. W. (2002). Crop pollination from native bees at risk from agricultural intensification. Proceedings of the National Academy of Sciences of the United States of America, 99(26), 16812-16816.

4.2 Social

Market gardens offer a range of social benefits that contribute to the well-being of communities and individuals. These can be divided into the benefits of public engagement, and the benefits of eating more fresh fruit and vegetables.

Public engagement is a significant part of the work of CSAs and peri-urban farms. From CSA member involvement in farm tasks, such as weeding and harvesting, to school visits and corporate away days, visitors to these farms see first hand sustainable agricultural practices in action, fostering a deeper understanding of the connection between food and nature. Community involvement in organic gardening encourages knowledge sharing and empowers individuals to make informed decisions about their food choices and environmental impact.[38] Volunteering provides people with physical exercise, mental relaxation, and a sense of purpose.


© Aweside Farm

Case study 8

Community Food Production and Access to Land

Aweside Farm is a 4.5 acre (1.8ha) plot in East Sussex run by Sinead Fenton and Adam Smith since March 2020.They grow edible flowers, cut flowers and culinary herbs.

Sinead's pathway into horticulture began with volunteering with a number of different food organisations across London, in order to learn more about the practical side of growing. Through this process she made contact with Audacious Veg, a 0.1 acre veg growing operation in East London. In 2017 she and her partner Adam were invited to take over running the garden.

They ran the plot for two years and learnt a lot along the way, but came to realise that it was difficult on that scale to make the business commercially viable. Whilst there is a high demand for locally grown produce in London it is hard to access enough land to grow enough to sustain an income.

The couple gained access to their land via the Ecological Land Co-operative (ELC), an initiative that makes land available for small scale new entrant farmers and growers. In 2019 they applied for the plot of land that Aweside Farm is situated on, which had been farmland growing maize for 30 years prior to being purchased by the ELC. Sinead and Adam have a 30 year mortgage with the ELC for the land via their rent-to-buy scheme.

As well as selling their produce to restaurants and shops they also have a community food growing project at the farm, where they grow veg and donate it to Sussex Surplus. They have also planted over 5000 trees and established habitats for wildlife.

38 Lammerts van Bueren, E. T., Blom, B., Osman, A. M., De Jong, T. J., & Kik, C. (2002). The value of a participatory breeding approach in organic plant breeding. Euphytica, 125(1), 71-85.

Importantly, in an age when people of all ages experience loneliness, the social connection and sense of belonging experienced by volunteers is a particular source of well-being, and was cited by 84% of respondents in a survey carried out at Sutton Community Farm[39] (see p29).Participating in agricultural activities like gardening can promote physical and mental wellbeing, reduce stress and improve overall health.[40]

Local organic and agroecological market gardens also contribute to the creation of a resilient supply of fruits and vegetables within communities, reducing dependency on distant food sources and enhancing food security during times of crisis or disruption.[41] For example, immediately following the Covid 19 lockdown in March 2020, UK veg box scheme sales increased by 111%, with 65% of box schemes prioritising key workers and the vulnerable.[42] Growing Communities' veg scheme annual survey found in 2021 that, 83% of their customers eat 5 to 10 portions of fruit & veg a day and 19% of their customers eat 7-a-day.[43] Increasingly, box schemes are addressing food poverty by offering "solidarity payment schemes", whereby better off customers are encouraged to pay a higher, "solidarity" price to enable the scheme to offer subsidised veg boxes to low income customers. This access to fresh and nutritious produce supports the well-being and dietary health of community members, especially those with limited access to affordable, healthy foods.

Peri-urban horticulture is often a more accessible route into farming for people of colour and others who have historically felt excluded from the countryside. Gardening, whether commercially or for leisure, is a way to cultivate culturally appropriate foods, while connecting with local land. Growing numbers of Black People and People of Colour (BPOC) are following a pathway from volunteering to establishing their own agroecological enterprises either in urban fringe areas or in the countryside (see case study of Aweside Farm page 28). However, for many, a move to the countryside can be isolating, due to the lack of racial diversity and the sense of "otherness" BPOC people experience.[44] CSA, peri-urban farms and other forms of organic market garden have an essential role in making food production and land work more accessible for a much wider cross section of society, including people with disabilities and with different sexual and gender orientations, as well as people of different ethnicities and cultural backgrounds.

The establishment of resilient organic and agroecological production systems in countries like the UK can also have positive implications for the countries from which fruit and vegetables are imported. By building domestic production

39 Jackman, J. (2023). The effect of public engagement in urban and peri-urban agricultural farms on the health and well-being of volunteers. MSc Dissertation Thesis, Institute for Global Prosperity, University College London.

40 Pretty, J., Peacock, J., Sellens, M., & Griffin, M. (2007). The mental and physical health outcomes of green exercise. International Journal of Environmental Health Research, 17(5), 319-337.

41 Chappell, M. J., & LaValle, L. A. (2011). Food security and biodiversity: Can we have both? An agroecological analysis. Agriculture and Human Values, 28(1), 3-26.

42 A. (2020) Covid 19 UK Veg Box Report. Food Foundation.

43 Growing Communities' Annual Veg Survey 2021 Results.

44 Terry, N. (2022). Jumping Fences: Land, food and racial justice in British Farming. Land in Our Names, The Ecological Land Co-operative and Landworkers' Alliance.

capacity, rather than focusing on exports, these countries can bolster food security for their own populations. Enhancing local food production and diversifying agricultural practices can help vulnerable countries becom more resilient to climate-related challenges, safeguarding the livelihoods and food availability for their citizens.[45]

Case study 9

The Value of Volunteering

Sutton Community Farm is a 3.1 acre (1.24ha) market garden, based on 7 acres (2.8ha) of land leased from Surrey County Council. The farm uses an agroecological approach, combining minimum till with no-dig approaches. Sutton Community Farm sells and delivers 360+ veg boxes each week on average and grows 14.8+ tonnes of fresh veg every year. They do buy-in some produce from other organic farms, and also sell wholesale to other suppliers. The farm is a Community Benefit Society, which means that it is legally owned by their community. They are currently applying for organic certification.

They employ three full time staff during peak growing season, and up to 50 volunteers are on site every week. Volunteers are involved in all areas of their community enterprise. Almost daily volunteer sessions including composting, harvesting, general crop production, maintenance and veg box packing sessions. They also run two supported volunteering sessions for adults and young people with autism, hosting approximately 10 people each week. One volunteer told us: *"Volunteering at the farm has given me a stable, supportive space to come to. It has nurtured friendships, created a feeling of belonging, and enlivened in me a passion for growing fruit and veg that never existed before!"*

The farm runs a 20 month paid (London living wage) traineeship, and has run shorter paid 4-6 month internships through partnerships/funding in the past 3 years. In 2020 and 2021 they hosted four kickstart trainees over a period of 4-6 months. In years where they don't have funding, they run unpaid six-month internships in the growing season. They also host occasional school trips, work experience placements, and take part in research projects if requested.


© Sutton Community Farm

45 Sova, C. A., Dao, H. C., & Cottrell, R. S. (2020). Climate adaptation strategies and food provision in vulnerable areas: A case study from central Vietnam. Land Use Policy, 97, 104703.

4.3 Employment and Training

Organic and agroecological market gardens offer numerous employment and training benefits that contribute to the growth and resilience of the agricultural sector. These market gardens provide attractive opportunities for new entrants to farming, especially those seeking environmentally conscious and socially rewarding work.

Sustainable agriculture practices have been shown to attract a diverse range of people to farming, including young individuals who are motivated by the prospects of positive environmental and social impacts.[46] The adoption of organic and agroecological methods stimulates knowledge sharing and skill-building among farmers and agricultural workers, ultimately enhancing the overall productivity and competitiveness of the

Case study 10

The Scotland Growers Training Network

This peer-to-peer training programme for new entrant growers, staff and trainees on small-scale market gardens and vegetable farms in Scotland is funded by the Scottish Governments' Knowledge Transfer and Innovation Fund. Coordinated and facilitated by the Landworkers' Alliance, it was run for the first time in 2023 to spread the load of training between multiple farms, pool resources and offer a greater diversity of learning experiences at different farms and market gardens for trainees. Fifteen growers took part in monthly visits to 6 market gardens and vegetable farms.

Each host farm offered an on-farm training on one or two key topics, planned and coordinated within the network ahead of time, complimented by monthly online sessions in business planning and marketing.

Clem Sandison, LWA Scotland Membership and Engagement coordinator, who facilitated the project says *"this pilot has shown the need for more regionalised training networks that are well funded, coordinated and structured, to help raise the standard and spread the load of traineeships across Scotland and the UK"*. Tom Booth from East Neuk Market Garden, one of the training providers, believes that training models like this could lead to a peer-reviewed informal qualification - as Tom describes it: *"a rubber stamp for farms that host training"*.

© Clem Sandison

46 Renting, H., Marsden, T. K., & Banks, J. (2003). Understanding alternative food networks: Exploring the role of short food supply chains in rural development. Environment and Planning A, 35(3), 393-411.

industry.[47] Furthermore, the steady and year-round nature of work in market gardens which run year round box schemes ensures stable employment opportunities for farm labourers, mitigating seasonal fluctuations and promoting a consistent income stream for agricultural workers. [48]

Case study 11

A Training Ground for Market Gardeners

Middle Ground Growers (MGG), near Bath is a Community Interest Company (CIC) on a 16 acre (6.5 ha) site with south-easterly aspect in peri-urban Bath (2 miles northwest from Bath town centre) and crops vegetables on 7.5 acres.

Starting from a 2 acre market garden supplying 30 veg boxes weekly, popular local demand, combined with modest crowdfunding, enabled MGG to scale up in 2020 to purchase, re-design and plant up the new 16 acre site. This site now comprises 2 polytunnels (enabling propagation and winter/ "hungry gap"[1] production), a more intensive 2-acre "no-dig" market garden and 5-acres of "min-till" field veg on a 6-part rotation, including green manures, which is alley-cropped between fruit saplings. They have planted mixed fruit and nut orchards and coppices, and further promoted biodiversity through conserving hedgerows and restoring wetlands.

Thanks to healthy lime-rich soil (9% soil organic matter), a skilled workforce comprising 4 full time growers and 1 apprentice, great teamwork, and a receptive local food network, they now feed approximately 130 households through fruit and veg boxes, for 36 weeks of the year, and additionally supply local businesses with about 60 fruit and veg box equivalents. Their fruit and veg boxes contain about 10 items each week. Cold storage to enables MGG to sell some crops wholesale to box schemes nearby. Box scheme deliveries are made using an electric bicycle, which is charged using on-site renewable energy.

Training future growers is a key part of MGG's beneficial impact. Since 2020 they have trained 6 new growers through paid apprenticeships which operate two days per week from May to November. Some of these new growers have started up their own market gardens in the region, produce from which is traded with MGG for mutual benefit. MGG are not only feeding people but also diversifying and boosting Bath's food growing network, and thus increasing Bath's overall food security.

1 Hungry gap refers to the period between April and June when winter crops have finished and summer crops have not yet begun.


© Sam Rudd


© Sam Rudd

47 Pearce, B., Potter, C., Hopkins, D., & Thogersen, J. (2018). The hidden work of sustainable agriculture. Journal of Rural Studies, 59, 77-86.

48 Galt, R. E. (2013). The moral economy is a double-edged sword: Explaining farmers' earnings and self-exploitation in Community Supported Agriculture. Economic Geography, 89(4), 341-365.

Reasons cited by market gardeners forchoosing small scale organic horticulture include the meaningful and varied nature of the work, opportunities for greater autonomy and to develop skills and progress towards more responsible roles.[49] Despite significant challenges, such as access to land and start-up capital, and long working hours, the characteristics of small scale organic horticulture are especially attractive to Millennials, who prize meaningful work that aligns with their principles and quick progression to a position of responsibility, followed by a good work life balance and an inclusive social working environment.[50]

While generating a livelihood from growing organic vegetables and fruit cannot be described as easy, evidence suggests that the farmer focused routes to market, through which many organic market gardens sell their produce, contribute to a greater sense of wellbeing for farmers compared with selling via supermarkets. A financial evaluation of the farmers who supply Growing Communities identified that 42% report a meaningful improvement in their financial wellbeing; 26% reporting improved job security; 85% reporting increased turnover, with sales increasing by an average of 87%; and 85% reporting that their work is more appreciated since working with Growing Communities.[51]

49 Styles, G., Talks, I. and Tomlinson, H. (2022). The attraction of agroecology and the barriers faced by new entrants pursuing agroecological farming and landwork. Landworkers Alliance; Laughton, R. (2017). A Matter of Scale: A study of the productivity, financial viability and multifunctional benefits of small farms (20ha and less). Landworkers' Alliance and Centre for Agroecology, Water and Resilience (CAWR)

50 Eldridge, H. (2018). Digging into Horticulture: Encouraging the next generation of producers. Soil Association.

51 Jaccarini, C. Lupton-Paez, M., Phaghoora, J. (2021). Farmer focused Routes to Market: An evaluation of the social, environmental and economic contributions of Growing Communities. New Economics Foundation.

Case study 12

The Financial Viability of a Start-up

Little Bishops Organics is a CSA which was started in 2020, when Chloe Blackmore and Dave Parry went into business together on Chloe's 167 acre (67ha) organic family farm in Devon, after several years of training and experience in organic growing elsewhere. Chloe's father has been producing organic root vegetables (potatoes, carrots, beetroot, swede, parsnips) and cider apples at Bishops Farm since 1987. The fledgling CSA benefits from being part of a larger farm in that they have access to the farm's land, machinery, cold store and other infrastructure, which has reduced start-up costs. They also benefit financially from sharing the cost of organic certification, insurance and accountancy fees, illustrating the benefit of operating as part of a larger farm.

By their third year of trading (2022) the total income of the CSA was £35,500 from producing and selling approximately 4.8 tonnes of vegetables. Production costs totalling £10,000 (e.g. seeds, compost, fuel etc), left £25,500 for drawings. Fortunately Chloe is able to save on rent by living at the farm, while this covers Dave's off-site rent and provides a modest income for each of them to live on.

They have 300m2 polytunnel space, and also grow 3 acres (1.2ha) of field crops on grade 3 stoney clay loam, which needs careful treatment as it bakes out in summer and drains freely in winter. Cultivation is min-till at field scale with tine cultivator, subsoiler and bed-former. It is ploughed after 2 years of green manure. Over-winter green manures are sown after summer crops finish. They're experimenting with undersowing crops using a clover/trefoil mix. Most weeding is done using hand tools at present. 2 FTE growers are employed year-round and the business doesn't rely on any volunteers.

Case study 13

Supporting Year-Round Jobs and Routes to Market

C&M Organics combines an organic market garden with a wholesale vegetable business, a veg box scheme and an onsite farm shop near Hebron, Pembrokeshire. By combining these different parts of the business, they are able to offer year-round work for 8 people, the majority of whom have varied work throughout the year, shifting between growing, retail, customer service and other parts of the business as the seasonal demand changes.

"The demand of the growing business reduces in late autumn and winter, but because we've got the shop, wholesale, and veg box scheme, there's always lots to do, and for the most part, everyone does a bit of everything" says Anna-Marie Young, one of the four C&M business partners.

In addition to selling their own produce, the 200 customer veg box scheme, the wholesale business and farm shop all also provide a route to market for other local organic growers in west Wales. Another way in which they support other growers is through farmer to farmer training and including hosting the nascent West Wales Growers Group.

"Organic vegetable farming is difficult. There are a lot of people selling rules on how to grow, but every piece of land and every year is different. Growers often fear judgement when things go wrong, so it's important to create supportive environments to exchange tips and demonstrate what we're doing on our farm, whilst remembering that every situation is unique" says Anna-Marie.

The 8-acre market garden on a larger 70-acre family farm consists mostly of grazing land for sheep and woodland. The vegetable business started in 1984 and is now run by the next generation. The higher income possible from the market garden and vegetable business, compared to if it were just pasture and woodland, has kept the farm in the family and enabled the younger generation to come home to farm. The business overall has a turnover of around £600,000 of which around £40,000 comes from the market garden.

4.4 Economic

Organic and agroecological market gardens offer substantial economic advantages, making them viable alternatives to conventional farming practices. Firstly, these sustainable agricultural systems have proven capable of generating sufficient income to support farmers and contribute to the local economy. Successful organic market garden enterprises can achieve profitability and financial viability, offering an attractive economic option for farmers seeking sustainable and environmentally friendly farming practices.[52] Organic and agroecological market gardens prioritise reducing inputs, such as chemical fertilisers and pesticides, which are becoming increasingly expensive in conventional agriculture. These cost-saving measures in sustainable farming practices contribute to improved financial stability for farmers and enable them to adapt better to fluctuating market conditions and economic challenges.[53] Furthermore, as agroecology emphasises local markets and direct sales as a way for the farmer to retain greater control

52 Kirwan, J., & Maye, D. (2013). Food security framings within the UK and the integration of local food systems. Journal of Rural Studies, 29, 91-100.

53 International Trade Centre (ITC). (2017). The organic market in Europe. Retrieved from https://www.intracen.org/uploadedFiles/intracenorg/Content/Exporters/Market_Information/Market_Studies/Organics-in-Europe-EN.pdf

within the food system, market gardens create opportunities for value addition within rural communities.[54] This in turn helps to retain a higher proportion of money spent on food within rural economies, which creates a multiplier effect, stimulating local businesses and job creation, thereby bolstering rural economies and enhancing overall economic resilience.

4.5 Productivity

Small-scale, labour intensive market gardens can be highly productive. Many operate on a fixed bed system, and utilise "no-dig" or "min-till" techniques, while small field scale operations tend to use older, lighter machinery, shallow cultivations and still rely on hand labour for harvesting and other operations. The ability to avoid soil compaction and minimise cultivation, to integrate companion crops and green manures and pick crops multiple times over a long season, all contribute to a system which maximises the use of bed space, optimises soil health and increases resilience to pests and diseases.

Very little research has been undertaken on the productivity of small scale market gardens in the UK, and there is an urgent need for academic focus on this topic. A study of 59 growers, for 16 indicator vegetables, small scale agroecological production had a higher mean yield than conventional field scale in 8 crops. Within 10 indicator crops, the study showed higher yields for small scale agroecological growers compared with field scale organic in all but two crops (onions and sweetcorn).[55] Crops that appear to perform well in agroecological systems are those that benefit from intensive labour input in both cultivation and harvest, such as mixed salad leaves, beetroot, spinach and beans and these tend to command higher prices. Other crops, such as onions and carrots, seem to yield better in a more mechanised system, where economies of scale operate to create production costs. Such research suggests that market garden yields compare well to field scale organic and conventional yields, but further data collection is necessary to prove this. While the LWA tries to do this when resources allow, a publicly funded programme of research or data collection would help significantly in developing understanding of the capacity of small-scale horticulture to contribute to domestic fruit and vegetable production.

54 Feagan, R., Henderson, A., & Johnston, L. (2015). Seeking justice in an unjust food system: The case of the local food movement. Agriculture and Human Values, 32(1), 1-13.

55 Laughton, R. (2017). A Matter of Scale: A study of the productivity, financial viability and multifunctional benefits of small farmers (20ha and less). Landworkers' Alliance and Centre for Agroecology Water and Resilience.

Case study 14

Productivity on a Scottish Highland Croft

Knockfarrel Produce operates on a family croft (smallholding) in the northern Highlands of Scotland. The CSA feeds 250 local households with fresh organic fruit and veg for 11 months of the year - from June through to April. Deliveries are made in an electric van, powered by an on-site wind generator.

Since 2010 Jo Hunt and Lorna Walker have converted 45 acres (18ha) of low productivity grazing land (Macaulay Land Classification, Grade 3.2 and 4.1) into a highly productive market garden, integrated with free range pigs and laying hen enterprises, a butchery and processing kitchen. The croft has switched from seasonal set-stocked grazing to a multi-enterprise year-round rotation of fertility building crops, animal fodder and fresh veg. As a result, the value of food produced on the croft has risen from around £320/ha with sheep, to over £18,000/ha as a market garden.

The CSA receives very little Basic Payment Scheme subsidy, as it occupies only a small land area. For every £1 of veg sold, the CSA receives just 2p of public subsidy. Whereas for every £1 of sheep sold, the croft used to rely on 47p of public subsidy. 28,000 trees have been planted, to provide hedgerow shelter for crops; an orchard for fruit production; native trees for nature restoration, and productive trees for timber and firewood. Although the farming and deliveries emit 42 tonnes of carbon a year, the combination of woodland planting, organic crop rotation and renewable energy production sequester 114 tonnes, meaning that the business is now carbon negative by 72T CO2e per year.

The thriving business provides employment for 3.2 FTE staff, paid the Real Living Wage. Knockfarrel also provides traineeships for two new growers each year. Eight previous trainees and staff have gone on from Knockfarrel to set up their own small farms and food businesses.

Each year 81 different types of fruit and veg are grown on the croft, using field, bed and protected cropping systems. The annual cultivation area is 12.5 acres (5ha) of outdoor veg and 5 acres (2 ha) of fruit, plus 800m2 of greenhouse polytunnel. The range of crops grown provides a changing seasonal variety of food for customers; helps stagger cropping around the year, and reduces the risk of any one crop failing. Of the £160,000 of food sold each year, 92% is grown on site, with the remainder being bought in from local and Scottish organic growers.

The processing kitchen means that nothing is wasted, as surplus produce is converted into chutneys, pestos and jams. The polytunnels enable production of leafy greens to continue throughout the winter, even at 58 degrees north (London is 51 degrees north), while reaching 40 in summer and producing abundant tomatoes, basil, cucumbers and aubergines.

Crofting legislation has provided the security of tenure that underpins the development of this CSA business. Crofting tenure has also given access to grant aid from the Crofting Agricultural Grant Scheme, that has been essential in making the significant investments in building, machinery and people to make the business viable Being a registered croft has also helped with planning policies that encourage agricultural development, the erection of buildings, and a Croft House Grant has supported upgrading and extension of on-farm accommodation. The CSA is just one of the crofts within the Knockfarrel township of 17 crofts. Help and co-operation from small-farm neighbours has been key to making the CSA successful and an active part of a real rural community.

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5. How are we Going to Get There?

5.1 Why does our vision matter?

We have framed our vision as a way of substituting for imports, to set the level of our ambition in the broader context of UK fruit and vegetable supply. While re-directing 20% of the value of vegetable imports to instead sourcing UK grown agroecological produce would contribute to increasing the resilience of the UK fresh produce supply chain, it is the multiple environmental, social and economic benefits described in the previous section that provide an equally, if not more, compelling set of reasons to implement this vision.

Organic and agroecological market gardens deliver clear environmental benefits, while high quality public engagement means vegetables are more likely to be eaten and benefit people's health. Further health benefits occur when the boundary between producer and consumer is blurred through volunteering, social prescribing and community supported agriculture, which enable people to benefit from the physical exercise, mental health improvements associated with working in nature and better community connection. Our vision of "a market garden renaissance" could re-enchant the public with food production, attracting a new generation of horticultural workers by creating a variety of satisfying and skilled work opportunities. An expansion of local and regional trade in fresh produce would keep more money circulating in the local economy, as well as increasing the resilience of fresh produce supply.

It is hard to put a price on the good health resulting from eating more fruit and vegetables, the mental wellbeing generated from job satisfaction or community connection, the pleasure from being in a natural, thriving environment, or the potential for future planetary health resulting from carbon sequestration. Each is precious in its own right, as are the less tangible features of food production which make life pleasant and enjoyable. Indeed, it is because they are so hard to measure that they are often overlooked and therefore not delivered in sufficient quantities.

Attempts have been made, however, to quantify the social and environmental benefits of organic and agroecological production and farmer focused routes to market. The cost benefit analysis of Growing Communities, mentioned earlier, demonstrated that for every £1 spent on produce at Growing Communities, £3.72 worth of social and environmental benefits were delivered.[56] These benefits include the sense of wellbeing experienced by farmers being decently paid for produce that is appreciated; the improved health resulting from a better diet and sense of community, the reduction of food waste all along the supply chain; the connectedness felt by customers; biodiversity benefits; reduction of greenhouse gas emissions resulting from organic production practices; and staff wellbeing due to better pay and working conditions. Calculations carried out by AA Landscape Urbanism students at the Architectural Association, with support from CommonWealth, suggest that the Social

56 Jaccarini C., Lupton-Paez, M., Phagoora J. (2020) Farmer-focused routes to market: An evaluation of the social, environmental, and economic contributions of Growing Communities December. New Economics Foundation.

Value Index for another organic vegetable farm and wholesaling hub in SW England is £3.8 million, when provision of social needs, increased capacities and unpaid labour, and downstream benefits (e.g. public health, soil carbon sequestration and pollinator health) are accounted for.[57]

If the network of agroecological market gardens, organic farms and farmer focused routes to market expands as we propose, by the time 20% of imports are being substituted by local, regional and national supply the benefits outlined above should be clearly apparent. The motivation to increase supply beyond 20% of imports would then increase. The momentum of expansion, in terms of training new growers, improving access to land and supply of specialist equipment is likely to bring down the cost of further expansion. Already, organisations such as the National Trust, as well as private estates like Balcaskie, are recognising the value of organic farms and market gardens, in delivering both social and environmental goods, by offering tenancies to CSAs (ee pages 38 and 40), but change needs to be faster to address climate change with the requisite urgency.

We hope this report will be read in the wider context of the need to increase fruit and vegetable consumption to improve public health and increase domestic resilience in supply. As mentioned at the beginning, diets that are low in vegetables and legumes contribute to 18,000 premature deaths per year, as a result of 77% of adults eating less than the amount of vegetables recommended in the Eatwell Guide.[58]

57 Pers. comm. Clara Oloriz, Architecture Association School, November 2023

58 Tobi, R., Wheeler, A., Gurung, I., Sutherland, J. (2021). Veg Facts 202. Food Foundation, Peas Please Campaign

Case study 15

Access to Land and Healthy Food

Glasbren, named after the Welsh language word for 'sapling', is a community food and land project in Carmarthenshire, West Wales. Since 2018, they have been offering CSA shares from their agroecological market garden to up to 65 local households. They grow on a human-scale, in permanent, no-dig systems, integrating annual veg production with agroforestry and perennial foods. The CSA runs for 26-38 weeks, and works with other local agroecological and 'one-planet' growers to ensure diversity in the veg boxes. Glasbren was started on a small social enterprise start-up grant, and many unpaid hours, second-hand infrastructure and reclaimed materials, and on family-land.

For Glasbren, whole system health is crucial. At their previous site, they created a highly productive market garden, whilst providing a therapeutic space for volunteers, and an educational experience for visitors, members and course participants. Working with LWA and the TGrains project at UWE Bristol, they explored the role CSA can play in improving food security and nutritional health for people on low incomes, through solidarity models and food insecurity pilots.

In 2023, Glasbren became the new long-term tenants of a 134-acre National Trust farm, Parc yr Arglwydd (Lords Park Farm) on the strength of a vision for a highly-diversified, people-facing farm blending agroecological horticultural production with agroforestry, mob grazing of heritage cattle and heritage oat and wheat cultivation with community involvement, seasonal celebrations, residential courses and events. The NT tenancy offers security and the ability and incentive to invest in long-term food production, enabling them to expand their production to meet demand, stabilise their financial sustainability and create jobs for additional growers. They are excited to be part of shifting the focus of NT farms towards nature, people and planet.

In the immediate future, the vision we set out here needs to emerge alongside a rapid transition towards sustainability (financial and environmental) for mainstream horticulture. At present the future looks bleak for growers of both vegetables and fruit, as increased production costs are not being accommodated by the prices received from supply chains. A recent survey commissioned by Riverford found that almost half (49%) of horticultural farmers believe they will have to give up their farm in the next 12 months.[59]

The UK Government needs to support UK horticulture. The report from the recent House of Lords Enquiry into Horticulture made several recommendations for increasing domestic horticultural supply, which we strongly support, including:

- The creation of horticulture strategy for England to give all growers the confidence to invest in long term measures to increase production.[60]
- Defining targets for food self-sufficiency and key food security indicators. Defra should, as a matter of urgency, reconsider its interpretation of international rules and consider barriers to promoting British food.
- The establishment of a cross departmental horticulture sector working group, to facilitate better decision making between the departments that either influence or are influenced by the existence of a thriving horticulture sector.

In addition to the House of Lords Recommendations, we set out, at the end of this report, recommendations for England/Scotland/Wales/Northern Ireland, which would help us overcome the barriers set out below. We don't expect the Government to do everything for us. Achieving this vision will be a joint effort and we are already working hard to realise it.

5.2 How we (LWA and allied organisations) will realise this vision

As this report shows, we are already working actively to achieve our vision. The following examples give a flavour of some of the initiatives LWA and other like-minded organisations, already have under way to bring our vision to fruition:

Training and skills - Practical training opportunities include six-month to two year long on-farm traineeships and placements on farm start, or incubator farm, schemes. The latter involve taking on a small plot (0.1-0.25 acres) and growing for an established market, alongside other "farm starters", whilst having access to shared tools and polytunnel space, and receiving training in crop planning, record keeping and other market garden skills. LWA already supports a Traineeship Network, and a network of Farm Start initiatives. LWA is working with organisations including Organiclea and Apricot Centre to establish accredited training courses and routes for those delivering work-based training informally to run

59 Fair Farming Survey- An Opinion Matters survey of 100 horticultural farmers carried out 20-26th July 2023 and reported on Riverford's "Get Fair about Farming" campaign website.

60 House of Lords Select Committee on Horticulture (2023). Sowing the Seeds: A blooming English horticultural sector. HL Paper 268, Session 2022-23.

Case study 15 *continued*

East Neuk Market Garden in Fife, is a partnership run at tenanted land on the Balcaskie Estate, which they also share with a flower farm and the community grain project, 'Scotland the Bread'. Tom Booth and Connie Hunter grow vegetables, some fruits and salads for 85 CSA shares, restaurants and a monthly farmers' market. East Neuk is an experimental market garden, and describes agroecology as the overarching conceptual framework influencing their practices "*a way of seeing farms and the farmers or humans that live on them as part of a integrated food web, in which lifeways that create food are integrated with the wider ecosystem*".

The security of their tenancy is allowing the couple to integrate vegetable production with agroforestry systems, using an alley-cropping design framework. They are currently transitioning to a deep mulch or 'no-dig' system throughout the farm, meaning they no longer cultivate the soil, in order to preserve and enhance soil health for greater crop health. Their systems are deliberately designed to be human scale, minimising the use of tractors in field work, and maximising opportunities for growers; "*If we can invest in people time and skills*", says Tom Booth, "*then we will*". Tom appreciates that the security of their tenancy is rare, and access to land is a real issue for horticulture across the UK. He also cites start-up capital as a limitation, and the fact that many aspiring agroecological growers can't train whilst also raising money to start a farm, so they will often have to make mistakes and learn 'on the job'.


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Organic Research Centre, The Apricot Centre, the Sustainable Food Trust, Black Mountain College and Sustain to create The Agroecological Learning Collective (TALC), a new UK-based collective of trainers, mentors, advisors, centres of learning and demonstration farms that work together to share and deliver the skills and knowledge needed for a regenerative future for the UK's food and land use systems.

Access to Land - For the last fifteen years, the Ecological Land Co-operative has been working to create affordable small farms, with basic infrastructure and planning permission for an agricultural worker's dwelling. To date they have created 11 smallholdings, with another 7 or 8 due to start operating in the next two years. All of these include an agroecological horticulture component (for example see case study 9, Aweside Farm), representing 30 hectares of additional fruit, veg and flower cultivation. A recent donation of a farm, along with purchase of a farm in Wales, will further increase ELC's land holding by 48ha, some of which is likely to be used for horticulture. LWA worked in partnership with Tamar Grow local and Bristol Food Producers to develop a pilot landmatch scheme (https://swlandmatch.org/). This is part of a broader initiative to help establish land matching opportunities in England which is being led by the CSA Network, LWA, The Institute of Agriculture and Horticulture (TIAH), Shared Assets and Tamar Grow Local.

Research and Development - To improve the productivity, financial viability and environmental sustainability of our members, three years ago we established the Agroecology Research Collaboration (ARC) with four other organisations. Our aim is to get the research needs of agroecological farmers, growers and foresters onto academic agendas, to increase farmer-led innovation and build stronger relationships with

academic establishments.

Better Food Traders - Better Food Traders was founded in 2018 by Growing Communities, as a way to support and promote ethical food retailers who sell locally grown, planet friendly food. Such retailers already sell £9.33 million worth of local organic food, and would form the foundation of our growing network of food producers and retailers operating according to Food Zones Principles. The Better Food Shed is operating as a central trading warehoue for produce delivered into London from the rural hinterland, or traded between peri-urban growers.

Connecting with Sustainable Food Places - For years, Sustainable Food Places (SFP) has been co-ordinating the creation of Local Food Partnerships (LFP) in cities, counties and islands across the UK. Using a systems based approach and bringing together stakeholders in local government, communities, businesses, academia and others, a LFP addresses dietary health, food poverty, sustainability, local economy and civic engagement in the food system. Over the last year, LWA has been engaging with SFP at a national level, and as well as individual LFPs, to build connections with local growers.

5.3 Barriers to Progress

Over the ten years that LWA has existed, we have seen enormous growth in the number of agroecological market gardens in operation, and many are thriving. More than we would like, however, are struggling for various reasons, many of which relate to financial or planning challenges. In preparing this report, we have asked our members to provide feedback on our vision at various grower events during the autumn of 2023. While we experienced widespread enthusiasm for our ambition, members' reactions have been invaluable in providing a realistic assessment of the opportunities and constraints to "scaling out"[61] market gardening as we envision.

Planning for both operational development and on-site housing - Due to the cost of buying a "ready made farm", many market gardeners start with a bare land holding, on which they have to build infrastructure from scratch. Without permitted development rights, which are withheld from farmers of under 5 hectares, it is necessary to obtain planning permission for barns, packing sheds, washroom and teaching facilities for visitors and frequently planning permission is not granted until after an expensive and stressful appeal.

Housing - Obtaining planning permission to build an agricultural workers' dwelling on the holding is even more difficult, with few local planning authorities recognising the essential need for growers to live on site, or the potential for developing viable businesses on a small area of land. Often growers are told to find local housing, which is rarely affordable for a rural workers' income, if it is available at all. The need to pay high rent for accommodation places an intolerable burden on fledgling businesses, when living on-site in a self-built, low impact home would significantly reduce cost of living, as well as environmental impact.

61 "Scaling out" is a term that is emerging for "increasing the number of enterprises" as opposed to "scaling up", which implies businesses are getting bigger.

Concerns about competition - Initially we proposed a massive scaling up of the number of CSAs, so that every village had one and every town had access to 3-5. Several members expressed concern whether there would be a sufficiently big market for organic vegetables to accommodate a "scaling out" to that level. A preference was expressed for support for cooperative marketing and sales routes, to encourage collaboration rather than competition. "Scaling out" needs to be done incrementally, as the market grows due to increased public awareness about the benefits of organic production.

Competition from supermarkets - The convenience and low prices offered by supermarkets make it hard to attract a wider demographic of customers and thereby expand market share of farmer focused routes to market. The combination of the low prices necessary to compete with supermarkets and the cost of housing makes it difficult to retain staff on the wages it is possible to pay.

Financial risk - Several new entrants were unwilling to risk investing their own savings into horticultural businesses due to the financial risks inherent in starting their own business (land, capital infrastructure, equipment, low returns), so were choosing to remain working for other people rather than become entrepreneurs. Many other aspiring new entrants do not have the benefit of savings.

Adapting to climate change - The challenges of losing crops and infrastructure or having diminished yield due to extreme weather conditions caused by climate change compound the problems cited above.

5.4 How can Government help to achieve this vision

While we advocate a cross departmental approach to horticultural support, our policy requests here are directed at the four devolved governments, due to agriculture and planning, the two main policy targets, being devolved. Following consultation with our horticultural members in each devolved nation, we have developed 5-6 policy requests for the Scottish, Northern Ireland, Welsh and English Governments, which can be seen in the final pages of this report. This approach acknowledges the different circumstances in each nation, in terms of geography, climate and existing level of support for horticulture.

5.5 Final Words

The time has come for a radical rethink about UK edible horticulture. A market garden renaissance of the kind described here would contribute significantly to the UK becoming a happier, healthier place in which to live. It could become a place where nature could thrive alongside the production of food for people and horticultural work would be seen as a secure and satisfying livelihood option. As all four nations of the UK seek to shape their future agricultural policies, we ask that edible, agroecological horticulture is prioritised as a source of healthy food, fulfilling work and sustainable land use. We can and we must create a brighter future for UK horticulture.


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6. Policy Recommendations for all Four Nations

Agriculture and planning policy are devolved issues, so most of our policy recommendations are directed specifically to either the Scottish, Welsh, Northern Irish or English Governments (see below). Trade policy, however, applies across the UK. We urge the UK government to adopt an approach to trade that supports, rather than undermines, our growers by ensuring that imported produce is subject to the same high environmental and worker welfare conditions as domestic produce. Ideally, seasonal tariffs should be applied to imported produce which can be grown in the UK. These tariffs should be applied incrementally as the domestic production comes into season to protect farmers when supply increases locally. Ecological footprint tariffs or border tax adjustments should be used to disincentivise produce with a high ecological and carbon footprint, including from production, transport and packaging.

Wales

The Welsh Government has made it clear that it supports the expansion of horticulture in Wales and has set a target to increase production by 25%. It has already taken steps to support horticulture including: capital grants for both start-up and development of horticulture enterprises; funding training for growers through Farming Connect Horticulture; commissioning research into impacts of planning rules on small veg farms; and supporting various public procurement pilots, including the Welsh Veg into Schools. These are important developments that we welcome and commend. Welsh Government should now build on these to create a holistic package of support to help make the food zones model a reality in Wales.

1. A Sustainable Farming Scheme for Horticulture

The current Sustainable Farming Scheme (SFS) is designed with large livestock farms in mind. A 3ha threshold for eligibility excludes many market gardens and per hectare payments will likely be so low as to be negligible for those that exceed the threshold.

To counter this exclusion, we propose a dedicated horticulture scheme run alongside the standard SFS. Under this proposal each market garden would receive an annual payment which should be similar to the average amount farmers in other sectors receive in subsidy payments (around £23,000 in 2022).[1] In return for this payment they would need to meet a minimum set of environmental, testing and reporting requirements, similar to those required by livestock farms in the main SFS, but designed with horticulture in mind.

1 Welsh Parliament Senedd Research (2022) The Farming Sector in Wales Research Briefing

2. A Sustainable Supply Chain Investment Fund for Public Procurement

Public sector procurement is one the best ways to ensure that people of all incomes are able to access locally grown organic vegetables, whilst providing a route to market for growers. Building on learnings of the Welsh Veg into Schools Pilot, and public procurement hubs, Welsh Government should create a fund to support the supply of organic vegetables into the public sector, which would pay the price difference between the cost of local organic vegetables and the standard wholesale price.

Organic certification will ensure high environmental standards, helping the Welsh horticulture sector grow without leading to new ecological problems. By paying the difference between the standard wholesale price and the average organic wholesale price, the level of support needed will drop in the event that increases in fertilisers and pesticides drive up the average standard wholesale price. By subsidising at the point of purchase, rather than production, this approach only supports produce for which there is a market, whilst still incentivising productivity.

3. Support Sustainable Farm Apprenticeships & Entry Level Grower Jobs

Expanding the number of fruit & veg farms in Wales will require a significant increase in the number of trained growers. Quality training for new entrants is sparse, difficult to access and underfunded. Few colleges offer training in edible horticulture and the low margins in vegetable farming limit the number of farms that are able to offer entry level jobs, where significant training is required. This creates a barrier for those without the means to support themselves while they learn. Welsh Government could address this by providing funds to support training and entry level jobs. It already supports employment under the ReACT Plus Programme, which could be built on and developed with schemes for specific "green economy jobs", including edible horticulture.

4. Continue to fund Farming Connect Horticulture

Farming Connect Horticulture provides an excellent service to help new and existing growers develop their skills. Maintaining this should be an essential part of a broader horticulture support programme.

5. Continue & Amend the Horticulture Development Grant

The Welsh Government Horticulture Development Scheme for grants for infrastructure is very welcome but needs improvement if it is to be of more use to producers who have very little time or spare capital. This could be done by:

Streamlining the highly onerous application process. If this is not possible within Rural Payments Wales, then consider contracting it out to another organisation, which is already familiar with the Welsh horticulture sector.

Combine the grants with loans and mentoring, following the successful model demonstrated by the Loans for Enlightened Agriculture Programme. This could be done by working with Farming Connect Horticulture and a lender such as the Wales Development Bank.Reduce the capital expenditure required by the participant by

- Reducing the minimum size of the grant available; and/or
- Increasing the proportion of the total purchase price covered by the grant.

6. Amend planning to allow housing and infrastructure on small farms

A major barrier for new entrants seeking to set up new farms is the cost and limited availability of housing in rural areas. This is particularly relevant in the first few years of a new business. The planning system should allow for people to live on or near the land that they farm. Rural Enterprise Dwellings, in theory, allows for this, but in most areas veg farms are unable to meet the tests to qualify for this. Furthermore, market gardens below 5 hectares do not benefit from the permitted development rights for farm infrastructure that larger farms benefit from. This means that just getting essential farm infrastructure like barns and polytunnels on a new or expanding market garden can take a long time and be very costly.

Planning policy should be amended to allow consent for temporary dwellings on establishment of a market garden, making the test for long term rural enterprise dwellings more suitable for horticulture, and removing the 5 ha threshold for permitted development rights for infrastructure.

Scotland

In Scotland, future agricultural support will be offered through the Agriculture and Rural Communities Bill. In order to ensure the local fruit and vegetable sector grows and thrives, we are calling for:

1. Introduction of a Horticulture Income Support Scheme

Under the new agriculture bill, direct payments for 'income support' will be offered to farmers on a per hectare basis. This means large-scale farmers, primarily in the arable and livestock sectors, will receive significant amounts of public money with limited conditionality, while smaller-scale fruit and vegetable producers will receive little to nothing. We are proposing that a specific income support scheme is put in place to ensure the horticulture sector is not left out. This would include a basic income payment of £15,000 a year for self-employed growers, and a wage support payment for up to five members of staff per-business.

2. Capital grants for small-scale market gardens, farms and crofts

We strongly support recent proposals for a Small Producers Capital Grants Fund, which would deliver much needed capital support for infrastructure for small-scale fruit and vegetable production. This fund would cover up to 80% of costs for capital expenditure for new entrants, young growers and those working in less favoured areas, and 40% of costs for all other small-scale producers. Own labour could be used as match funding to make the fund as accessible as possible to those who need it most. Resembling the

successful Crofting Agricultural Grant Scheme, this fund would be available to all small-scale food producers in Scotland and would be invaluable to market gardeners and other growers.

3. Removal of the minimum size threshold for support payments

The current minimum size threshold of 3ha for agricultural payments prevents many fruit and vegetable producers from accessing much needed support. We are calling for this threshold to be removed for all payment schemes under the new agriculture bill. Many market gardens fall under this size threshold, and yet are able to feed 30-50 households per hectare while supporting nature and sequestering carbon. Public money should not just be available to those with access to large amounts of land.

4. Restructure criteria for Producer Organisations

Funding for fruit and vegetable producer organisations (POs) is set to continue under the new agriculture bill, with a total budget of £6 million over the next two years. In its current form, this funding supports only three cooperatives of very large-scale fruit and vegetable producers with turnovers of over £1 million a year, who predominantly feed into the supermarket supply chain. None of this funding is available to smaller-scale growers and market gardens who produce food for local communities. The new agriculture bill does give ministers the power to change the criteria for this scheme, and we are calling for them to use this power to make sure the whole of the fruit and vegetable sector can be supported, including small-scale market gardens. In addition to offering much needed financial support, this would encourage cooperation between small-scale agroecological producers and strengthen local supply chains.

5. Investment in training and knowledge sharing for horticultural production

There is currently no formal training available for small-scale fruit and vegetable production in Scotland. We are calling for Government support for a formal traineeship scheme developed in collaboration between LANTRA and the LWA, and led by existing market gardeners. This would ensure new entrants are encouraged and helped into agroecological fruit and vegetable growing with sufficient training and are ready to run their own enterprises or be employed as skilled workers. In addition, we are calling for investment into relevant higher education programs and courses, including the introduction of a degree-level qualification in market gardening.

Northern Ireland

1. Access to Financial Support

Ensure support for established and new entrant small scale agroecological growers. All market gardens and small farms (including those of less than 5ha)engaged in commercial production should be included in future agricultural subsidy schemes, including Farm Sustainability Payments and Farming for Nature.

2. Targeting Support for Agroecological Growers

The new Horticulture Sector Growth Support

Scheme should privilege support and incentives for agroecological growers. Growing systems, including diverse multispecies cropping and sylvo-horticulture at even scales of less than an acre, should be eligible for inclusion in support schemes.

3. Support for New Entrants

Tertiary and vocational horticulture courses should have increased content and focus on organic growing of edible crops and of agroecological practice. Land Tenure Reform and Land Mobility Programs should privilege support for new entrant growers to access land to establish a new cohort of agroecological growers with access to land and capacity building for their ventures including at new grower hubs.

4. Cooperative Marketing for Direct Sales

Support should be provided specifically for direct marketing of local organically grown produce, through the establishment and support for local food retail hubs including farmers markets and cooperative box schemes and other farm to end consumer direct sales systems.

5. Capital Investment Appropriate to Agroecological Methods: Future Capital Investment

Schemes should provide for the scale and types of machinery suitable for agroecological growing include poly tunnels, older style and second hand machinery and other appropriate technology.

England

1. Develop a Horticulturre Strategy for England

Defra should work with the horticulture sector to co-design an ambitious cross-departmental horticulture strategy for England, as recommended by the House of Lords Horticulture Select Committee (Nov 2023).

2. Training and Equipping a New Generation of Growers

Build on the success of the New Entrant Support Scheme, including training, funded mentoring and a "LandMatch" programme, to connect prospective growers with landowners offering opportunities, thereby catalyse a dramatic increase in the number of new and scaling up growers. Adapt the Farm Equipment and Technology fund to increase flexibility on equipment that can be purchased, reduce the capital contribution required by beneficiaries (either in terms of % contribution or by dropping the spending threshold) and allow funds to be spent on second hand equipment.

3. Planning and access to land in urban, peri-urban and rural areas

Small scale horticulture must be viewed as a desirable land-use in urban, peri-urban and rural areas. The establishment of market gardens in the peri-urban areas of The Green Belt, so they are accessible to the public, would bring multiple social and health benefits and aligns with the principles of The Food Zones. Streamline planning regulations to encourage horticultural enterprises, by allowing permitted development rights for commercial market gardens under 5 hectares

and explicitly supporting the creation of modest agricultural workers dwellings where they will facilitate the creation of a new enterprise. While provision already exists for rural workers dwellings in the National Planning Policy Framework and local plans, small scale horticultural enterprises rarely gain planning permission on first application due to a perception that they are "not proper businesses".

4. Fruit and Vegetable Aid Scheme and E.L.M.S.

Design the new F&V Aid Scheme to make it more flexible and accessible to edible horticulture of all scales, selling through a diversity of routes to market, rather than just through producer organisations. The F&V Aid Scheme redesign offers an opportunity to be visionary in shaping a UK domestic horticulture sector that is sustainable, attractive to new entrants and highly productive. E.L.M.S must include SFI and Countryside Stewardship elements that are targeted towards horticulture, accessible to holdings of less than 5ha and well enough funded to meaningfully reward public goods delivery and incentivise a transition towards agroecological production for all growers.

5. Facilities for the distribution and trading of fresh fruit and vegetables

Local authorities should be encouraged to make facilities available in recognition of the multiple social, environmental and economic benefits delivered by food schemes operating according to Food Zones principles.

6. Unlock the power of public procurement

Local, health and other authorities purchasing food on the public's behalf should commit to meeting the Government Food Strategy target of "50% of food expenditure on food produced locally or to higher environmental production standards"[2] and seek ways to use their spending power to stimulate local and regional production of organic food. They should collaborate with local distribution schemes and wholesalers, who are connected with organic horticultural producers, to explore opportunities to make contracts accessible to this sector, through tools such as dynamic procurement.

2 Secretary of State for the Environment (2022). Government Food Strategy. Department for Environment and Rural Affairs.

Appendix I

Self-sufficiency and market value of 20 of the 50 most popular vegetables and fruits in the UK, and how we could adapt to increase the percentage we produce domestically

		Imported (%)	Self sufficiency (%)	Market Value (£ million)	Adaptation for greater resilience and 100% self sufficiency
1	Peppers	89.18%	10.08%	£292.10	Seasonal adaptation
2	Pears	84.5%	15.50%	£220.90	Seasonal adaptation
3	Plums	82.61%	17.39%	£92.60	Seasonal adaptation
4	Tomatoes	80.36%	19.64%	£744.30	Seasonal adaptation
5	Cucumbers	75.54%	24.46%	£201.90	Seasonal adaptation
6	Lettuce	70.01%	29.99%	£205.80	Better crop planning
7	Dessert apples	69.49%	30.51%	£878.70	Store for all year round availability
8	Asparagus	68.64%	32.36%	£78.00	Seasonal adaptation
9	Courgettes	66.31%	33.69%	£68.00	Seasonal adaptation
10	Spinach	60.77%	39.23%	£51.50	Better crop planning
11	Celery	60.66%	39.34%	£70.60	
12	Onions	50.08%	49.02%	£209.20	Store for all year round availability
13	Broccoli and cauliflower	49.25%	50.75%	£301.90	Seasonal adaptation
14	Brussels sprouts and kale	47.72%	53.28%	£83.90	Seasonal adaptation
15	Raspberries	44.41%	55.59%	£253.90	Seasonal adaptation
16	Beans	41.95%	58.05%	£162.70	Seasonal adaptation
17	Strawberries	32.95%	67.05%	£576.80	Seasonal adaptation
18	Leeks	30.87%	69.13%	£74.60	Seasonal adaptation
19	Cabbage	7.93%	92.07%	£92.40	Better crop planning
20	Carrots	6.73%	93.27%	£221.20	Store for all year round availability

Appendix II

Glossary of Acronyms

BPOC	Black People and People of Colour	GC	Growing Communities
CSA	Community Supported Agriculture	NT	National Trust
FTE	Full Time Equivalent	LWA	Landworkers' Alliance
FZ	Food Zones		

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