



Consultation

Local Food for Everyone (Scotland)

Response by the Landworkers' Alliance

<https://landworkersalliance.org.uk/>

Consultation paper is available [here](#).

Our 'Landworkers' Alliance in Scotland Manifesto for Change' can be found [here](#).

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PART A – Local food

In this consultation local food is defined as food that has some or all of the following features:

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

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

a. Yes 0

b. No 0

c. I don't know 0

B. Please provide further detail on what local food means to you?

The Landworkers' Alliance (LWA) welcomes the Scottish Government's commitment to making high quality food accessible to all and promoting the benefits of locally produced food and drink.

The LWA is a democratic, member-led union of farmers, growers, foresters and land-based workers with a mission to improve the livelihoods of our members and create a better food and land-use system for everyone. **Agroecological farming and land**

management is place-based, sustainable and deeply integrated with the local community, ecology and environment, and, therefore, can and should play a crucial role in delivering in a local food strategy.

Yet, in order for a local food strategy to be a success, **more support is needed for those that produce genuinely local food**. Our response to this consultation highlights some of the challenges that food producers face and makes suggestions for improvements and reform.

It is great to see a wide definition of local food which goes beyond geographical aspects and includes supply chains, sustainability and social equity. However, the **four requirements should be cumulative conditions, all to be fulfilled for food to be considered 'local'**. To be genuinely local food it should, as much as possible, be produced, processed *and* consumed locally with the least amount of steps and shortest distance between production and consumption, in sustainable *and* agroecological ways *and* in a way that is fair, equitable and just for all people producing and consuming the food.

The definition should be more explicit on climate and biodiversity, in relation to sustainability. The climate and biodiversity crises are the key issues of our time, and a holistic approach to all agricultural and food policies should aim to address both. Lastly, better connections could be made between the conditions and diet, health and wellbeing. At the moment, too much local production is for alcohol or animal feed, and we need more production in Scotland of food that can feed the people in Scotland, in particular, vegetables and fruit. There is an opportunity through this policy to make **stronger cross-departmental connections** between agriculture, food, health and the environment (including biodiversity and climate).

Local food should, ultimately, be about **empowerment of Scottish communities and food producers**. Principles of Food Sovereignty - a concept that is now endorsed at international level through the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas - can be helpful to make sure that all food policies deliver on this.

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

a. Yes 0

b. I agree with some but not all of the benefits 0

c. No 0

d. I don't know 0

B. Please provide further detail on your response, including whether there are there any further benefits not captured. Please provide examples if possible.

The benefits of local food systems cannot be overestimated. **Direct, short supply chains save money, reduce waste and reduce environmental impacts**. Local and short supply chains

mitigate climate change through lower greenhouse gas emissions from food production, processing, packaging, transport and waste. **These systems also deliver significant benefits for biodiversity, soil health, animal health and welfare. But local food systems also better support farmers.** By retaining a greater percentage of the sales price of products means they are better able to cover the increased costs of agroecological and organic farming systems. **Decentralised routes to market contribute towards farming becoming, once again, a dignified and sociable occupation that can provide a viable livelihood.** Sustainably produced food sold locally or regionally to people with a connection to the farm is a pathway to reducing reliance on subsidies. Local food systems are, therefore, absolutely crucial to a just transition for agriculture and much stronger connections between this consultation and the one on agricultural subsidy reform are necessary.

Local food systems also strengthen local economies and communities. For example, **every £1 spent by customers on veg box schemes or farmers' markets generates a further £3.70 in social, economic and environmental value** (see also <https://www.nefconsulting.com/growing-communities-evaluation/>). **Local food producers in Scotland employ an average of 3.4 full-time workers from the local economy compared to the regional average of 2.3 workers per farm** (<http://www.nourishscotland.org/wp-content/uploads/2015/06/Local-Food-Economy-Report.pdf>). Creation of meaningful and decent employment opportunities in rural areas through support for agroecological businesses that value farmers and farm workers contributes to achieving Sustainable Development Goals.

An evidence base is increasingly being built in support of the **economic potential of agroecology**: A review of social and economic performance of agroecology' (2019) by D'Annolfo et al.; 'The economic potential of agroecology: Empirical evidence from Europe' (2019) by Douwe van der Ploeg et al.; 'Farming Smarter: The Case for Agroecological Enterprise' (2020) by Tony Greenham and Marcus Link for the Food, Farming and Countryside Commission.

We are cautious about the statement that “we need to take into account areas of production where Scotland has particular strengths rather than aiming to meet all food needs domestically, and consider the differences between what Scotland produces and what Scottish people enjoy eating, as well as the seasonality of Scottish production of certain products,” to justify a continuous focus on trade. **What Scottish people currently enjoy eating is not necessarily sustainable or healthy and better education is necessary to make people more aware about the environmental, health and social footprint of current diets.** Although seasonality brings some restrictions, our members demonstrate that it is possible to have all-year-round production of healthy foods (fruit and veg) in Scotland. Seasonality means that we cannot have everything available all year around but that can also be seen as a way to increase diversity in diets. **Local food systems foster a closer relationship between farmers and the consumers and promote an acceptance of different sizes, shapes and varieties of produce, and the seasonality of food.** Promoting local food provenance also strengthens the cultural identity of a place and its people.

3. Are you aware of any disadvantages of local food?

a. Yes 0

b. No 0

B. Please provide further detail about your response. Please provide examples if possible.

Local food has no disadvantages as such, but there are disadvantages to the way local food is currently valued and portrayed. Local foods have sometimes become niche, high-end products. There are perceptions that local food products are artisanal and, therefore, must be more economically expensive than industrially produced food.

Where local food is more expensive, this is often because a lot of agroecological, small-scale producers have no choice but to use artisanal markets to add value to their produce and products to make ends meet. This follows from **a lack of support for sustainable production, especially at a smaller scale, and a failure to internalise the negative social and environmental impacts of large-scale, industrially produced, processed and distributed food, resulting in market failure and significant competitive disadvantages.**

In Scotland, there is also a large **disconnect between what people need to feed themselves and what we produce**, making it seem like it is impossible to feed ourselves with local produce. For example, we do not grow nearly enough fruit and vegetables (currently just 0.38% of land is used for horticulture -

<https://www.gov.scot/publications/economic-report-on-scottish-agriculture-2017-edition/>). There is a perception that it is not possible to increase horticultural production for local markets but we have many members who are doing great things for local fruit and vegetable production in small spaces, and the Scottish soft fruit sector could be much better aligned with local markets.

These 'disadvantages' can, however, be overcome through better support for genuinely local food. **Government needs to address market failure via a radical overhaul of agricultural subsidies**, to ensure that they reward biodiversity protection, climate change mitigation and social public benefits including employment opportunities and the production of nutritious and local food, and by **implementing the 'polluter pays' principle. Further support is necessary for local infrastructures, actively creating local markets (e.g. through procurement that prioritises local food), tackling bureaucratic and regulatory barriers to small-scale and local food production (e.g. procurement contracts, hygiene regulations) and education and training to build skills in local food** (see also Q4-7).

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

Clearer connections are needed between the different pillars. Redirecting our food system to the production of local food requires **agroecology as a holistic approach**. Although recognition of positive cases and activities are welcome, Government needs to own up to the

fact that **for too long it has supported an export-oriented food system that does not provide for the needs of Scottish communities and that has failed to address the many barriers that genuinely local food producers face.** In this regard, there is a need for a legally binding and ambitious framework which sets out the objectives of our food system based upon the Right to Food, with clear targets and accountability mechanisms - something that the Good Food Nation Bill is not promising to deliver. Much clearer linkages are also needed with ongoing **discussions on agricultural subsidy reform which fail to even acknowledge and consider the devastating and inhibiting impacts of area-based payments on local food economies.**

Making land available for [farming and] growing

The consultation document places strong emphasis on allotments and community gardens. Yet, there are currently far less allotments available than needed (e.g. average time on a waiting list in Edinburgh is 12 years). Also **there is a need to think bigger and support more people to produce local food for a living rather than for self-provision only.** Supporting more allotment growing is commendable but is a small drop in the ocean in terms of development of a genuinely local food economy. More farmers, better food!

There are many dynamics relating to land in Scotland that overall create huge obstacles to access to land and secure tenure for local food and farming. Area-based agricultural subsidies have resulted in a positive feedback loop, as owning more agricultural land means more public support, means more possibilities to finance and acquire more land. **Land in Scotland is expensive and prices are often driven by the potential of non-farming activities** rather than realistic returns on food production, with it not being uncommon that local food producers are 'outbid' when trying to purchase land to start or grow their businesses (e.g. by developers or foreign investors with few ties to the local community).

Current trends in the land market relating to carbon sequestration and offsetting projects also indicate a trend that goes against Scottish Government policy goals to decentralise power through land reform. Claims that these market trends are helping to reduce climate emissions need much stronger and more careful scrutiny, and to be balanced carefully with the opportunity costs of land use alternatives (such as local food production). These trends are operating against the development of local food economies, and strong regulation needs to be implemented in order to minimise the long-term impacts of poorly designed off-setting initiatives.

Access to land alone is not sufficient to secure local food production. Of equal importance is **access to adequate and affordable housing** - a growing problem in rural areas - and capital to finance farm buildings, infrastructure machinery and other equipment.

Some policy actions that could help make land available for growing include:

- **Make clear connections between a new Local Food Strategy, the work of the Scottish Land Commission** and anticipated discussions on land reform.
- **Make 3000 hectares of publicly owned land** available to new entrants by 2026, with a strengthened focus on agroecological business models.

- **Support community landowners** to make land available for agroecology by renewing and doubling the value of the Scottish Land Fund (SLF) and supporting community supported agriculture (CSA) initiatives.
- Commission research into the impacts of market value transfers for communities and **create an institutional body to monitor land sales in Scotland** (comparable to the French Land Agencies - SAFERs - which imposes a public interest test on large scale land transfers).
- **Improve the democratic functioning of our planning system** by strengthening local place plans and including farming and local supply chain infrastructure.
- **Reform inheritance tax and cap the maximum amount of land owned** by any one individual or private company.
- **Create affordable housing** within rural communities and limit the number of properties that can be bought as second or holiday homes and explore measures which would disincentivise disaggregation of farm houses from farm land.
- **Promote other models facilitating access to land**, e.g. share farming and Community Land Trusts.

Learning about food

Food and agricultural education and training are intrinsically linked. Giving children and young adults the skills necessary to grow, choose and prepare nutritious food does not only provide benefits related to physical and mental wellbeing, but also provides foundations for the creation of a new, diverse generation of environmentally and socially conscious farmers, crofters, growers and foresters.

Increasing the visibility and accessibility of the food and agricultural sector, especially with regard to young people who may lack exposure, is crucial to increase diversity in farming, crofting, growing and forestry work. Engaging school pupils with food production should not only occur digitally. **Real life visits** to farms would be more beneficial in connecting children with where their food comes from.

Some policy actions that could help improve and boost learning about food include:

- Continuously **build the skills of students across primary and secondary schools** to grow food without use of chemicals and to prepare nutritious and tasty meals.
- **Create direct connections between children and agroecological farmers, crofters, growers and foresters** through programmes that support hands-on learning. Public procurement can help facilitate such interactions, for example, through visits to farms that supply local schools.
- **Make food growing and farming opportunities part of the curriculum** and provide financial support for growing activities at schools (e.g. capital funds for polytunnels, composting bins etc.).
- **Offer a National 5 and Higher qualification** in organic/agroecological food, farming and forestry in every school.
- Support the creation of a **funded degree course in local and agroecological food**.

- Provide funding to cover **salary and NI payments for interns/trainees** employed by small and medium scale agroecological farmers, crofters, growers and foresters.
- **Recognise and strengthen the diversity of our farm workforce** by providing more support to women and all gender identities, and monitoring ethnicity of the farming population in the Scottish Agricultural Census.
- **Appoint diversity champions** to challenge perceptions of who farmers, crofters, growers and foresters are.

Improving access to local food

It is essential that food remains affordable and accessible to all in society, and that present inequalities in access to healthy food are addressed. **A cash-first approach to financial hardship is preferred over other options, as this is less disempowering to recipients than other forms of support**, but support needs to be long-lasting and safeguards should be put in place to ensure that higher food-related spending budgets benefit the most vulnerable and are not absorbed by other actors (e.g. landlords through higher rents).

But much more is needed to make local food accessible to everyone. Local food is not available for sale in all communities (e.g. in 'food deserts'), and it is often marketed as niche, artisanal produce which is primarily for the affluent. Public procurement can play a positive role in increasing access to local food for vulnerable groups. In particular the expansion of Universal Free School Meal provision across Scottish primary schools provides a unique opportunity for connecting Scottish children and young people with Scottish food in their everyday experience. Support for projects by food producers that aim to increase easy access to their products - for example, online distribution and markets - is required.

5. Do you have any comments on the second pillar of the Scottish Government's local food strategy: connecting Scottish producers with buyers?

Clearer connections are needed between the different pillars. Redirecting our food system to the production of local food requires **a holistic agroecological approach**. Although recognition of positive cases and activities are welcome, the government needs to own up to the fact that **for too long it has supported an export-oriented food system that does not provide for the needs of Scottish communities and that has failed to address the many barriers that genuinely local food producers face**. In this regard, there is a need for a legally binding and ambitious framework which sets out the objectives of our food system based upon the **right to food**, with clear targets and accountability mechanisms - something that the Good Food Nation Bill is not promising to deliver. Much clearer linkages are also needed with ongoing **discussions on agricultural subsidy reform which fail to even acknowledge and consider the devastating and inhibiting impacts of area-based payments on local food economies**.

Foster short and circular supply chains

Short and circular supply chains are an essential component of a local food system and are key to delivering a local food strategy. A lot of our members are struggling to set up

supply chains to get their products to local markets. For example, distribution networks for local beef and lamb do not exist, and retailers are not interested in these products. Furthermore, a lack of local processing facilities and local or mobile abattoirs are key inhibitors for local food production.

In the horticulture sector, short supply chains are essential for the viability of small scale growers, and even the narrow margins larger growers who sell to supermarkets are under threat due to rising production costs. A thriving horticulture sector requires a shift towards selling via more direct and farmer focussed routes to market, such as co-operatives and food-hubs.

There is a need for a planning/ policy system that reflects the needs/facilitates the development of this infrastructure. The need to develop local food systems with all the associated economic, environmental and social benefits must be better recognised at local and national levels.

There is a lack of integration of on-farm retail and food processing capital in grant schemes, which are crucial for delivering on a local food strategy. The idea of not funding investment 'beyond the farm gate' is outdated and does not line up with the ambitions in this strategy to reduce the steps behind producer and consumer as much as possible.

Capital grant schemes need to be appropriate to the scale of local businesses; often the amounts of money required are relatively small and minimum amounts for capital grants need to reflect that. The requirement in many grants to buy new (and therefore relatively expensive) rather than second hand equipment can also be a barrier for some businesses. Some policy actions that are needed to foster short and circular supply chains include:

- **Improve local infrastructures,** including (local or mobile) abattoirs, processing and storage facilities, distribution hubs, food waste recycling and wholesale markets.
- **Include on-farm food processing and retail in capital grant schemes** available to all farms.
- **Make capital grants more accessible to small-scale farmers,** through adequate and free support, abolishment or reduction of minimum-area requirements, reform of payment structures to allow for upfront payments with clear reporting requirements, abolishment of income cap on small-farms grant.

Encouraging retailers to stock Scottish produce:

Encouraging retailers to stock Scottish produce can be beneficial to local food production but the **government needs to be more aware of the advantages and disadvantages of specific routes to market. Supermarkets, in particular, should not be the focus of a strategy on local food.** The concentration of the market in the hands of only a few supermarkets is exacerbating imbalances of finance and power which is leading to a series of market failures. The domination of food markets in the supply chain has led to downward pressure on prices and increased pressure on farmers to cut environmental and animal welfare standards in order to

make this possible. The contractual and cosmetic demands of supermarkets often drive environmentally damaging practices such as pesticide and herbicide use, monocultures and food waste, while failing to support seasonal variations in supply and the production of disease resistant varieties (which can reduce fungicide requirements). By contrast, **informed customers buying from local shops or box schemes are able to directly support and encourage seasonality and good environmental management.**

A local food strategy should support local economies which include local retailers. Decentralised routes to market can make healthy, fresh, nutritious and often organic food, produced by SMEs, accessible to people of all incomes. They are more accessible to agroecological and smaller scale farmers and facilitate a proliferation of such enterprises which bring an associated increase in agrobiodiversity at genetic, crop and landscape level. This contributes to an increase in natural biodiversity and soil health, which are vitally important to the resilience and adaptability of our food system in the face of climate change and environmental degradation.

Encourage consumers to buy Scottish food

The primary focus of this section should not be on marketing, which is likely to only enforce an image of local food as artisanal, high-range and niche. **Fairer competition between genuinely local food and industrially produced and distributed supermarket food is crucial.**

Internalising the negative environmental and social externalities of industrial (implementing the 'polluter pays principle') and reform of area-based payments that have favoured large-scale production of commodities rather than diverse and localised production of food, are necessary first steps.

Education is another key feature of a strategy to encourage the uptake of local food.

Raising awareness of the environmental and social footprint of cheap, imported products is necessary. The proposed policy actions listed under 'Pillar I - Learning about food' are a starting point.

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

Clearer connections are needed between the different pillars. Redirecting our food system to the production of local food requires **a holistic approach, such as agroecology.** Although recognition of positive cases and activities are welcome, Government needs to own up to the fact that **for too long it has supported an export-oriented food system that does not provide for the needs of Scottish communities and that has failed to address the many barriers that genuinely local food producers face.** In this regard, there is a need for a legally binding and ambitious framework which sets out the objectives of our food system based upon the right to food, with clear targets and accountability mechanisms - something that the Good Food Nation Bill is not promising to deliver. Much clearer linkages are also needed with ongoing **discussions on agricultural subsidy reform which fail to even acknowledge and consider the devastating and inhibiting impacts of area-based payments on local food economies.**

Public food procurement could be a key element in localising food supply chains in Scotland. It could **generate a steady and reliable demand** if done well, and **increase access to locally grown and reared food for vulnerable groups** such as children, people with poor health and the elderly. As the ultimate purchaser, local and national governments are in a strong position to expand procurement of sustainable local and regional food. Yet, the pillar lacks clear actions and targets to make procurement work for local food. Policy actions to improve are outlined under Q15.

There are many barriers that currently exist that inhibit effective procurement arrangements to boost local production in support of diverse and healthy diets, in particular for smaller suppliers with closest ties to local communities (e.g. communities gardens, small farmers, crofters etc.):

- **Bureaucratic barriers** and restrictions on the type and number of authorised suppliers.
- **Volumes required are often too big**, and suppliers are expected to supply an area or region rather than just a single school or hospital, which goes beyond their capacity.
- **Procurement of food production is lumped together with processing and transport**, an unrealistic requirement for small scale producers of primary products.
- **Budgets in the public sector are too small** to adequately support local food and allow producers to earn a decent living from their efforts. Cost remains the most important consideration, diminishing the environmental, social and health benefits of local food.
- **There is a lack of facilities and adequately trained and well-rewarded staff** in public institutions, e.g. schools, to prepare and serve fresh meals from local food.
- **Due diligence requirements are disproportionately arduous/expensive** for small producers.

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

Policy actions required to deliver on the pillars identified by the Scottish Government are listed under Q4-6. One area of oversight in the consultation that spans all three pillars of the consultation document is the **lack of local infrastructures** to support food production, and the **need for regulatory rules** - in particular for hygiene and food safety - **that are feasible and reflective of the low-risks of production of food that is done at small and local scale.**

Local food systems that require a degree of scale and cooperation are constantly hampered by a lack of facilities and infrastructure. The problems facing **small scale, local abattoirs** that can slaughter a diversity of animals at limited numbers are not mentioned at all in this consultation document. **Wholesalers** generally, and small to medium scale businesses in particular, have been in decline for many years. Small scale arable producers and bakers struggle to access **driers, cleaners, and dehullers** that will economically process small quantities of grain.

Key infrastructure to support local supply chains that is needed include:

- **Small and local and mobile abattoirs**, which reduce or diminish the need for live transport. Abattoirs need to be equipped to process a great diversity of animals (including rare breeds that are crucial for agrobiodiversity).
- **Packaging, cleaning, drying and processing facilities.**
- **Distribution hubs** and low carbon transportation.
- **Storage**, in particular, cold storage for both stationary storage and short transportation.
- **Primary processing equipment** (e.g. washers for vegetable producers, driers/ cleaners for arable producers, weighing equipment for livestock).
- **Buildings for farmers' markets.** Bowhouse in Fife is a good example of how making available small processing units (miller, butcher) together with a space for farmers' markets can create the perfect venue for vibrant local food communities.

Additionally, there should be a **comprehensive assessment of the impacts of specific hygiene and food safety rules on small scale and local food production.** Although food safety is crucial, distinctions need to be made between high-risk, industrial food processing of extremely large quantities of animal products every year, and small-scale, low-risk local units which process a limited number of animals and animal products, to avoid rules becoming an insurmountable barrier for continuing and setting up of local infrastructures in support of local food production.

[Questions specifically targeted to individuals have been omitted from our response].

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

Policy actions required to deliver on the pillars identified by the Scottish Government are listed under Q4-6. It is not enough for the Scottish Government to ask a question like this in general terms, as if tackling the systemic and very real barriers to local food production can be easily overcome. **An effective local food strategy requires an integrated and targeted approach** to address the many issues that prevent local food economies from flourishing. The Scottish National Islands Plan involved comprehensive consultation of island communities - a combination of online and face-to-face meetings across Scotland - and the same should be done here. Food is at the centre of Scottish life and **a local food strategy demands a participatory approach** which involves face-to-face discussions with all those involved in and relying on local supply chains. Furthermore, it needs to have the ambition to expand the local food sector far beyond the small market share it currently occupies, to enable the environmental benefits of local and farmer focussed supply chains to increase with the urgency required.

Much better connections need to be made between different areas of policy reform. The current, scattered approach lacks clear direction and targets, which will lead to conflict and inefficiencies. The **Good Food Nation Bill** should have provided for a framework to guide policy action on agriculture and food, but the Bill that is currently on the table did not at all take account of civil society's calls to include the Right to Food, clear aims and accountability mechanisms.

Clear and solid linkages should be made between this consultation and:

- **The reform of agricultural subsidies** which have been detrimental to local food economies. Reform of area-based payments is not just unavoidable - it is absolutely essential to giving local food economies a chance to build themselves up.
- **Revision of the Land Reform Act.** Land concentration, lack of transparency and scrutiny in how the land market operates, , increasing trend towards short-term and insecure tenure arrangements, are preventing enthusiastic farmers and growers from accessing the land necessary for new local food businesses, and for expansion and long-term development of those businesses. We are risking setting people up to fail if there is not a systematic approach to developing security of tenure alongside land access mechanisms.
- **New Organic Action Plan.** Organic certification can provide assurance for sustainability, but comes with administrative and financial barriers for small scale producers.
- **National Planning Framework Scotland**, and specifically the commitments for creation of 20-minute neighbourhoods. Growing zones in urban areas are more democratic processes are necessary for local place plans which support local food economies.

15. A) Do you think that Scotland's schools, hospitals and other public institutions provide sufficient access to healthy, locally sourced food?

- a. Yes
- b. Mostly
- c. Somewhat
- d. Not at all**
- e. I don't know

B) Please provide further detail about your answer above, focusing on any changes you think could be made to improve access to healthy, locally sourced food within schools, hospitals or other public institutions.

Policy actions that are needed to help public procurement of local food must include:

- Recognise and overcome the many **bureaucratic barriers** associated with public procurement of local food. The situation is so grave that the perception is that you cannot even pick apples from a schoolyard apple tree without a procurement process, discouraging school-grown food and engagement with local food producers.
- Develop **dynamic procurement systems** and regional distribution hubs, which requires investment in procurement expertise and capacity at the local level. Dynamic food procurement takes a flexible approach, allowing a range of suppliers, including small scale farmers to access the contract at any stage through its duration. This represents

an enormous opportunity for farmers and growers. Public procurement should prioritise use of dynamic purchasing systems.

- **Strengthen the capacity of local producers to compete** in the tendering process through training and the process should be simplified as much as possible.
- **Separate procurement of food production from transport and processing.**
- **Set clear targets** and work together with local authorities, farmers, crofters and growers and financing organisations to implement food procurement plans **with a view to source at least 50% of 'public food' from genuinely local and/or agroecological or organic sources**, giving priority to small scale farmers, crofters and growers. The French Government recently created a statutory obligation for public bodies to source at least 50% of their food from organic, sustainable or local sources, and the Danish Government set a goal of 60% of organic food in public kitchens in 2011, a target which has now been greatly exceeded in some areas (Copenhagen is now at 90 percent organic).
- **Put in place effective and streamlined data collection mechanisms** to ensure origin information is available for all products, and broken down by site.
- **Make sure that every public institution has the facilities to prepare fresh food.**
- **Increase the budgets of local authorities** to ensure that they can source sustainable food and hire trained staff to prepare healthy and fresh meals.

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

a. Yes 0

b. No 0

B) If you responded 'Yes' to the question above, please provide further detail on these and why they were effective.

Direct Supply: Raasay Primary School and Community Garden
<https://www.facebook.com/RaasayCommunityGardens/>

Raasay Primary School is a rare example of direct supply of a school by a small local grower. Raasay House and its walled garden have been owned by the community since 2007. Following extensive campaigning by the school cook, Raasay primary school now receives a weekly veg box from Raasay Walled Garden and purchases Raasay venison, pork and beef from the local community store. Apart from obvious benefits (reduced food miles, healthier and freshly prepared meals) those involved report a reduction of food waste with food better targeted to the preferences and needs of the children, and opportunities for composting of green waste collected by the school and used in the school and community gardens. Education within the gardening club at the school itself is now being complemented with regular trips to the walled garden to help with food production.

Yet, the road to get here was not straightforward. Even at this small and local scale, issues arose when Highland Council indicated none of the food producers on the island were authorised suppliers and it took a lot of time and effort to get recognised as such. Financial investment and long-term sustainability is another issue. Some grant funding (through the Climate Change Fund) was generated for one year to get the garden back into production. However, the garden has only enough funds to pay a part time gardener at 20 hours/week (generated mainly through rents for Raasay House) and is otherwise reliant on volunteers.

Co-Operative Supply: Mossgiel Organic Farm & East Ayrshire

<https://mossgielfarm.co.uk/>

Mossgiel Organic Farm supplies local, organic milk to all schools in East Ayrshire. The milk is provided in bulk to schools to prevent unnecessary plastic waste, wiping out 400,000 single-use bottles in waste. The milk is delivered by electric vans to reduce carbon emissions. The farmer Bryce Cunningham says this was possible due to a “change in approach to local food by East Ayrshire Council”. Mossgiel is committed to only working with organic family farms in South West Scotland through a co-operative called OMSCO to ensure fair pricing to farmers, bringing opportunities for smaller farms to access the market. As part of the contract, Bryce will also deliver talks to pupils about dairy farming and all things relating to sustainability. The example highlights the importance of local producer co-ops, and why these should receive government support.

Dynamic Procurement: Bath and North East Somerset Council

<https://equilibrium-markets.com/banes-pilot.html>

In 2015, Bath and North East Somerset Council began a pilot of a dynamic procurement system for ingredients for school meals. It was designed to increase the opportunities for local producers, including SMEs, to competitively tender alongside larger suppliers, and to encourage increased uptake of healthy, organic, seasonal and sustainably produced food. They created an online platform which enables producers (who meet certain production standards criteria) to tender to supply individual products, rather than to fulfil the entirety of the contract. Schools could then order directly online, and the products from different local suppliers were consolidated into one delivery for convenience. This procurement route successfully provided the ingredients for 7,000 school meals a day in the region, and was 6% less expensive to the local authority than the previous contract for school meals ingredients. This project also helped to increase school pupils’ connection with their food, as many local producers got involved in a ‘Cook Off’ event for pupils.

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

a. Yes 0

b. Somewhat 0

c. Not at all 0

B) Please provide more detail about your answer

The Covid pandemic **has strengthened our position on local food**. Local food systems are **flexible**, adapting quickly to unanticipated shocks. In the 2 weeks following the first Covid 19 lockdown in the spring, sales for many short supply chain businesses at least doubled (see [Food Foundation's Covid 19 Veg Box Scheme Report: https://foodfoundation.org.uk/sites/default/files/2021-10/Food-Foundation-COVID-19-Veg-Box-Scheme-report.pdf](https://foodfoundation.org.uk/sites/default/files/2021-10/Food-Foundation-COVID-19-Veg-Box-Scheme-report.pdf)).

Such businesses are **resilient**, as a variety of 'routes to market' (including farmers' markets, box schemes, supplying restaurants and public procurement) spreads the risk in the event of one of their markets failing. **A localised food economy also creates a resilient community**, one that can produce enough calories in the local area to withstand the systemic disruptions that impact supermarket supply chains and leave certain groups exposed to food poverty.

18. A) Are you aware of any organisations or schemes that have been particularly effective in providing local food during the COVID-19 pandemic?

a. Yes 0

b. No 0

B) If you responded 'Yes' to the question above, please provide further detail on these and why they were effective.

Bowhouse and East Neuk Market Garden

<https://www.bowhousefife.com/>

<https://www.eastneukmarketgarden.com/>

The Bowhouse, a local food hub in Fife, collaborated with local food producers to ensure the community had access to healthy and delicious produce during lockdown, and to provide new routes to market for local producers who lost their wholesale contracts due to the pandemic . They launched the Bowhouse Link in April 2020, to replace their usual monthly farmers market. This is an online platform which brings together a wide range of local producers, including

butchers, flour millers, brewers and market gardeners, to sell their produce in one place. Local people can purchase their entire weekly shop, and the Bowhouse co-ordinate putting together orders from different suppliers, packaging the produce, and delivering it. Shorter supply chains were also beneficial for improving Covid safety, as very few people came into contact with the products between the field and delivery. After being a huge success during lockdown, the Bowhouse Link has continued to provide a platform for people to shop online for local produce weekly.

East Neuk market garden, which collaborates with the Bowhouse Link, provides an excellent example of how Community Supported Agriculture (CSA) schemes have been so effective at providing local food to communities during the pandemic. They usually sell veg boxes to local people during the summer season, beginning in June, and provide produce for restaurants throughout the winter. When lockdown led to the closure of restaurants, they had to find new ways to market their produce. They were able to respond to the huge increase in interest in local food by beginning their veg box scheme early, in April, and offering delivery to customers in the local area. For those who collected their own vegetables, the garden offered a much safer shopping environment than a supermarket. While many veg box schemes suffered a large drop in customers after lockdown was lifted, being a CSA scheme ensured customers were more involved with the business, and they continued to purchase veg boxes and support the market garden.

Flour to the People by Scotland the Bread

<https://scotlandthebread.org/get-involved/flour-to-the-people/>

The flour to the people project was established in 2020 in direct response to the overwhelming demand for flour during lockdown, and the significant spike in interest in home-baking at that time. As many community groups adapted to the online environment, some began regular cooking or baking meet-ups, and this project provided a platform for such engagement by ensuring that communities with fewer resources had access to more nutritious flour and the skills and knowledge to transform it into delicious bread. Many of these community baking groups have continued to meet, reconnecting a wide range of people with local flour and bread.

Knockfarrel Produce near Dingwall

<http://www.knockfarrel.com/>

During the first 6 weeks of lockdown the supermarket shelves in Highland were almost entirely empty of fresh food. For the first time in living memory, it looked like there may not be enough food to feed everyone. Supermarket home delivery services were overwhelmed and people were reluctant to go to small shops due to advice about social distancing.

Knockfarrel Produce, like every other local food producer, was inundated with requests for food deliveries from concerned local people, particularly those whose health made them most vulnerable to Covid. In response, Knockfarrel Produce was able to increase its local food deliveries by almost 100%. At the same time, other routes to market were closed to the producer - all farmers markets were cancelled.

Knockfarrel Produce then set about doubling our food production for the year ahead, so that it could continue serving local customers at this level. This included collaborating with a larger farm to increase the vegetable production area, taking on two additional local paid staff, building an on-farm butchery unit and commercial processing kitchen and setting up a new on-line ordering hub to manage increased sales.

As a small business Knockfarrel Produce was able to respond rapidly to a changing market situation - but it would not have been able to do this without grant assistance from HIE and Scottish Government. They also rearranged our delivery routes, packing days and introduced drop-off points in local communities, to increase our delivery capacity. Customers were not only appreciative for getting healthy fresh food when they most needed it; they were also willing to help with distribution in remote rural areas.

The business was concerned that the sudden increase in demand for local food was a spike that would decline as soon as supermarkets became safe places to shop again. However this has not been borne out, and new customers have stuck with Knockfarrel Produce for 18 months now. Once they have tasted good local food and come to feel part of the community that supports the croft, it becomes a part of their life. Knockfarrel Produce's experience was reflected across lots of local food producers, last spring. See The Food Foundation's Covid 19 Veg Box Scheme Report:

<https://foodfoundation.org.uk/sites/default/files/2021-10/Food-Foundation-COVID-19-Veg-Box-Scheme-report.pdf> in which Knockfarrel Produce is featured.

19. A) Are you aware of any organisations or schemes that have been particularly effective in developing a strong sense of local food culture and community?

a. Yes 0

b. No 0

B) If you responded 'Yes' to the question above, please provide further detail on these and why they were effective.

Glenkens Food Hub in Dumfries & Galloway

<https://www.propagate.org.uk/glenkens-food-hub>

Glenkens, a community of around 3500 people, is based in Dumfries & Galloway and involves three main villages. The Food Hub is an ongoing piece of work celebrating local food in all its

forms in this rural community. Activities include an annual month-long food festival (September) to celebrate all food local and seasonal. This year, it included farm tours, film screenings, apple pressing days, seed and produce swap, good cooking demonstrations and a local food feast with everything sourced sustainably and within 25 miles. A study was conducted to inform the next steps for the community project. As a result, between now and 2023 the project will focus on 1) Food education in schools, 2) Set up of a hyper local supply chain and distribution hub, 3) Start of a community farm based on a community supported agriculture (CSA) model.

<https://irp.cdn-website.com/808d67fc/files/uploaded/GLENKENS%20Report%20P.D.F..pdf>.

The project is helped by the fact that there is funding available from community financial sources (including two large wind farms) and that there is a very strong community focus to deliver.

The Food Life in Angus

<https://thefoodlife27.wildapricot.org/Blog/10750227>

The Food Life is a non-profit Community Benefit Society created to strengthen the ties between Angus farming and food businesses and community economic vitality with an emphasis on rural and semi-rural Angus. Its key focus is an educational project in cooperation with Brechin High School, through which it provides weekly seminars and hands-on classes for food growing. This year, it was awarded £10,000 from the National Lottery to extend its activities by training 10 new food educators; people who will be equipped with the skills of growing, processing, and distribution of food. Despite the many public benefits that the project provides, it has faced significant challenges. This involves a lack of time to dedicate to events, education, meetings and fundraising, with the project being run by volunteers next to their day (farming, food processing and educational) jobs. Financial sustainability is another issue, with private funds having been used for key growing structures (e.g. polytunnel, composting area). The inability to secure funding has not been helped by a lack of expertise and focus in local government on local food production, which has, for example, meant that generous public funding available under the 'Mercury Programme' (listed under the Angus Food Growing Strategy:

<https://www.angus.gov.uk/sites/default/files/2021-06/Angus%20Food%20Growing%20Strategy%205.pdf>) has been attributed to large-scale and primarily export-oriented agricultural

businesses. Lastly, the project would like to grow with a CSA project which combines food education with food provision, yet access to land is an inhibiting factor. What is necessary is an overall attitude change from 'cheap food at huge cost' to local and agroecological food.

Campy Growers in Dundee

<https://growdundee.blog/>

The analysis of the Fairness Commission of the Council of Dundee in 2013 included a recommendation to support community growing. As a result, it appointed someone within the Council with a remit to support community growing in more deprived areas through direct

engagement with local groups, and provided a small budget for infrastructures for community gardens. As a result, 10 community gardens were initiated and a further 3 projects are to be realised over this winter, including one at the local homeless shelter. During the Covid period - when allotments and community gardens remained accessible - the gardens became a place to meet others and get involved in activities for good physical and mental health.

The next phase came when the Council nursery was due to be closed as part of funding cuts. This was taken as an opportunity to explore a transfer of ownership to a community group. The ambitions of the Dundee Local Food Growing Strategy and commitment to the Glasgow Declaration for Food and Climate provided the strategic framework for a focus on local food production. Grant funding for capital investment (by Scottish Government) is allocated by the Council to put up a building that will not only include food processing and packaging facilities but could also provide space for food education and training and cooking classes. The case study illustrates the importance of vision and supportive people in local authorities and the power of a collaborative approach. However, the project does face some challenges. This includes a lack of funding for salaries, with the community garden fully run by volunteers, and long-term financial sustainability. At the moment, capital is sought for polytunnel repair (£36,000 pounds), a climate-neutral electric bike for transport (£10,000) and the employment of a part time grower to upscale what are currently still small production activities.

20. A) Are you aware of any organisations or schemes that have been particularly effective in reducing the distance that food travels from being grown or produced to being eaten (the number of 'food miles' travelled)?

a. Yes 0

b. No 0

B) If you responded 'Yes' to the question above, please provide further detail on these and why they were effective.

Most Landworkers' Alliance members sell via local or regional, farmer focussed routes to market (either direct or via short supply chains), because these are the best and most accessible markets for small scale agroecological growers. Supermarkets and other industrial supply chains, which usually require longer distance transport of food due to their centralised distribution networks do not tend to be interested in small volume supply, and would not offer terms that would be viable to our members. Moreover, our members are all committed to supplying food to their local communities, whether this is via existing independent retailers, restaurants and cafes, or farmers markets, box schemes or CSAs.

Canadian Local Food Infrastructure Fund

<https://agriculture.canada.ca/en/agricultural-programs-and-services/local-food-infrastructure-fund>

The Canadian Local Food Infrastructure Fund is a 5-year, \$60 million fund ending in 2024. The impact of funding must be targeted and immediate, and must be directly related to addressing food insecurities and increasing the accessibility of healthy, nutritious and ideally local foods within their community(ies). The initial intake of LFIF took place from August 15, 2019 to November 8, 2019 (LFIF-1), and was aimed at small community-based organizations to allow them to improve their infrastructure and purchase equipment directly related to the accessibility of healthy, nutritious, and ideally, local foods within their community. The second intake of LFIF took place from June 9, 2020 to February 12, 2021 (LFIF-2), and along with simpler infrastructure requests noted above, included more complex, multi-year projects that strengthen local food systems. Applicants may submit a proposal for a minimum ask of \$5,000 to a maximum ask of \$250,000.

St Bride's Free Range Poultry in Strathaven

<https://stbridespoultry.wordpress.com/>

Since 2009, Robert Morris has run St Bride's Free Range Poultry farm in Strathaven. The farm produces low volumes of slow growing free range poultry, championing low input farming and utilising short supply chains, which all contribute to reducing food and input miles. His birds roam free and scratch and forage for bugs and grubs along with the lush grass, and they get mash from Strathaven Ales Brewery 'down the road' as a treat. The meat is sold directly to customers in Strathaven and Glasgow and at the Lanarkshire Farmers market. However, infrastructural issues make it difficult to facilitate development of the small-scale, free range poultry sector in Scotland. The sector currently relies on 1 large scale abattoir, 1 large scale breeder and 2 large scale feed companies. A vibrant small scale poultry sector could take inspiration from the French system which works with a large number of co-operatives that are owned by farmers, producing a large number of farmers and 50 different breeds of poultry. The cooperatives manage all supply chains and slaughter infrastructures.

Tomnah'a in Perthshire

<https://www.tomnaha.com/>

Since 2015, Tomnah'a market garden has been growing fresh flowers, fruit, vegetables, herbs and hens on a 5-acre site in gorgeous rural Perthshire (Comrie Croft). The market garden primarily functions as a Community Supported Agriculture (CSA) project, which is a partnership between farmers and consumers in which the responsibilities, risks and rewards of farming are shared: <https://communitysupportedagriculture.org.uk/> (see also Q21). It has grown its business over the Covid-lockdown period and now supplies a total of 140 vegetable boxes. A large part of

these are 'pack your own' allowing for very direct interactions between producer and consumer. One-off vegetable bags are also available, and deliveries are made to those in need. Last year, when Tomnah'a lost its restaurant sales due to lockdowns, it also started supplying through different 'Neighbourfoods' - an online food hub - but local demand has grown so much since then that this is no longer necessary. Tomnah'a received SRDP New Entrant Young Farmer Start-up grant to help with start-up costs. They are planning to run more and more training and learning events, such as gardening courses. Tomnah'a provides traineeships with on site accommodation (food included) and a stipend. They would like to provide proper salaried jobs and are looking to employ 1 person next year, but finances are still limited. Another challenge concerns being able to keep up with all the administration, putting a strain on limited capacities.

21. A) Are you aware of any organisations or schemes that have been particularly effective in the increasing availability of locally produced food?

a. **Yes**

b. **No**

B) If you responded 'Yes' to the question above, please provide further detail on these and why they were effective.

Greencity wholefoods

<https://www.greencity.coop/>

Workers cooperative based in the east end of Glasgow, which has been supplying wholesale food across Scotland since 1978, with a particular focus on local and organic products. Greencity Wholefoods arose from the local activist movement, which, to this day, has retained ethical and environmental values at its core. Greencity works directly with farmers to ensure high production standards, a diversity of local products and fair prices. Within Glasgow, they run a variety of initiatives to help people learn about and reconnect with their food.

Local grain networks

<https://kneadingconference.com/>

Local grain networks include the Maine Grain Alliance in the US and the South West Grain Network in the south west of England. These networks directly connect farmers who grow diverse grains (including landraces and other heritage grains for agrobiodiversity) using sustainable methods with local millers and bakers, who produce food for local people. Working together and developing direct local supply chains allows members to build community, acquire collective infrastructure and support new entrants. The Common Grains initiative in Scotland, in which several of our members are involved, aims to establish a similar network of farmers,

millers, bakers and brewers across the country, to strengthen the supply of local grain, flour and grain-based products, and reconnect people in Scotland with their staple crops.

Community Supported Agriculture

<https://communitysupportedagriculture.org.uk/>

Community Supported Agriculture (CSA) is a supply model in which members commit to buying a “share” of produce from a farm for a period of a year, thereby sharing the risks of production with the farmer/grower. Many different models of CSA exist, including those initiated by farmers reaching out to their communities and those initiated by communities who then employ a farmer. While most CSAs focus on vegetable and/or fruit production, livestock and cereal CSAs do exist, while in the US and other countries CSA farms often supply a full range of food products. A key feature of CSA is that members are more closely connected to the farm, receiving newsletters and recipe sheets, attending social events such as Ceilidhs or “Apple Day”, and often contributing to monthly work days. By definition, therefore, CSA is increasing access to local food since members need to live locally to benefit from their share. According to [The Community Supported Agriculture Network UK](#) website, there are currently eight member CSAs in Scotland, and their occurrence is considerably less than in England or Wales. Scottish Government support for the development of more CSAs would contribute significantly to the long term supply of local food, and the CSA Network and LWA can provide advice for how this could be achieved.

PART B – Vertical farming

22. A) Have you considered using vertical farming technologies?

- a. **Yes, I have or work with a vertical farm, or I am currently planning to**
- b. **Yes, but I have not yet made a decision/do not have enough information**
- c. **Yes, but I decided not to go ahead because I faced barriers**
- d. No, it's not suitable for me/my product/my industry**
- e. **No, I don't know what vertical farming is**

B) Please explain your reasoning.

Vertical farming in its current status is only suitable for a very limited range of food crops. The crops considered most suitable and fit for commercial exploitation in vertical towers are small plants such as perishable fresh herbs (e.g. basil, coriander). Growing trays are

generally not deep enough to grow roots, they are generally not spaced widely enough to grow grains, the use of pollinators has not yet been developed enough to allow for soft fruit, etc. The plastic/metal infrastructure necessary for vertical farming has high embodied energy, and the speed of development of hydroponics is likely to lead to the waste of plastics and other equipment, as one type of system is superseded by another and components are incompatible. While the degree of control possible over weather and pests, compared to growing in soil using the sun's energy (cloudy weather, frosts, droughts and pest attack), may seem initially attractive, the environmental costs in terms of inputs and waste are likely to be significant.

The sun is able to provide huge amounts of energy for photosynthesis at no environmental cost, while a well managed soil, fed with recycled nutrients (compost and leguminous green manures) is the ultimate sustainable growing media. Furthermore, little is known yet about the nutritional value of plants grown hydroponically in comparison to soil grown plants, and the sources of nutrients to feed hydroponic systems is unlikely to be sustainable if vertical farming is practiced at any scale. **Vertical farming is the ultimate in high input farming practices, in that every single element of the system is an input.** It therefore has no place in a local food system or circular economy, in which the minimisation of transport of inputs or outputs is a key objective.

There are very few producers that are able to use vertical farming technology at the moment. **Due to very high initial investment costs, patenting of new technologies and limitations on the type of crops produced, vertical farming has the potential to concentrate power with large corporations and undermine local food systems.** Our members, farmers, growers and land-based workers who produce local food using sustainable farming practices, often work at a small scale and are not in a position to benefit in any way from this technology. Moreover, some of the crops that small scale growers excel at growing (salad leaves, fresh herbs) would be in direct competition with vertical farming.

It is no surprise that the main interest in investing in this farming technology is coming from large supermarket chains. Neither this farming method nor this type of investor would be contributing what we understand to be the range of potential benefits associated with localising the food system. The Scottish Government **should undertake a full cost-benefit analysis of the current levels of investment into 'innovation' of vertical farming systems in comparison to like-for-like costs for local food production systems, and include measures relating to productivity of a wide-range of food, along with other outputs and externalities.**

23. A) What effect would increased usage of vertical farming have on food imports to Scotland?

- a. Significantly reduce
- b. Slightly reduce
- c. Have no effect

d. Slightly increase

e. Significantly increase

f. I don't know

B) Please provide further detail about your answer.

Vertical farms require a large amount of upfront investment and are not well suited to growing staple foods. They are ideally suited for growing large amounts of small perishable crops (e.g. fresh herbs) which are destined for elite markets (e.g. Sainsbury's growing basil, parsley and coriander in a tower built in Milton Keynes for high-end restaurants and small numbers of wealthier customers). It will therefore have no effect on replacing staple foods that are imported. It could potentially lead to slight increases in imports if investment continues to focus on this rather than what is necessary to create genuinely local food systems. The time to invest in local agroecological food systems is now.

24. A) Would vertical farming cause an increase, decrease or have no effect on the following concerns compared with conventional production?

	Increase	Decrease	No effect	I don't know
a. Emissions from transportation				x
b. Pesticide and fertiliser usage				x
c. Water usage		x		
d. Electricity usage	x			
e. Packaging	x			
f. Land use		x		
g. Labour requirements		x		
h. Seasonality of produce		x		
i. Freshness of produce				x
j. Cost of production	x			

B) Please give examples.

This question compares vertical farming to conventional production, which has been geared towards export-oriented commodity markets, rather than local and agroecological

production. In agricultural terms, 'conventional' refers to a system of food production which includes the use of synthetic chemical fertilisers, pesticides, herbicides and other continual inputs, concentrated animal feeding operations and large-scale monoculture cultivation.

Where vertical farming may have some isolated benefits in comparison with current industrial production, comparisons in the context of a strategy for local food production should be made with alternative forms of local production, such as agroecological and small-scale farming.

Additionally, it is important to recognise the limitations of what can be grown in vertical farms: primarily small perishable crops such as salads and herbs. Comparisons must therefore be made with other methods of production for these crops.

a) While vertical farms are often put forward as a way of producing food in urban spaces, their **extremely high energy bills** (for operating all automation and generating artificial light and heat) mean it is most profitable to build them in remote places with reduced energy rates for helping take surplus energy off the grid. This results in **food miles**, transporting monocrops to urban centres. In order to combat this, it is necessary to regulate the location of vertical farms at a government level, such that they are only constructed on unused urban land. This is also essential to ensure vertical farms are not built on fertile arable land which could be used for other forms of agricultural production. **Comprehensive planning legislation for vertical farming projects is therefore essential.**

b) Since the towers are meant to be sterile environments, pesticide use is normally minimised. However, **as there is no soil used in vertical farming, all plant nutrition comes from chemical fertiliser, so fertiliser use would increase.** All inputs for vertical farming (fertilisers / plant feed) are artificial and synthetic, which translates into high emissions. The comparison here with 'conventional' production is misleading, as conventional production tends to be high in inputs such as fertiliser. **It is, however, quite possible to produce food in Scotland without the use of chemical inputs, as many of our members across the country demonstrate on their farms.** In comparison with farming methods such as agroecological farming, the requirement for chemical inputs is greatly increased for vertical farms.

c) These growing systems are known for optimising water use as water can be filtered and recycled in the towers. This means they are ideal for areas with severe water shortages such as the Emirates, California, etc. **Water does not pose the same challenge in Scotland.**

d) See also a)) **Energy bills for VF towers are large as artificial light has to be generated 24/7 in addition to heating and automated tower operations.** For example, lettuces grown in traditionally heated greenhouses in the UK need an estimated 250kWh of energy a year for every square metre of growing area. In comparison, lettuces grown in a purpose built vertical farm need an estimated 3,500kWh a year for each square metre of growing area. Automation is required for sterile environments that keep human presence to a minimum.

<https://theconversation.com/food-security-vertical-farming-sounds-fantastic-until-you-consider-its-energy-use-102657>

e) **The crops that can currently be grown using vertical farming methods are highly perishable, and are sold in plastic packaging to maintain freshness.** This is likely to be particularly true if vertical farms are placed far from urban centres, as long-distance travel requires more packaging, and if they are primarily sold through large supermarkets, which use significant single-use plastic packaging when selling these types of products.

f) Land-use is decreased when building vertically. However, **there is potentially lots of land available for growing food in Scotland – it makes more sense to put energy into changing land use and accessibility to land instead.** If vertical farms are seeking to address a policy objective about land access, then they will fail! It is essential that vertical farms are not constructed on fertile land, which should be used to produce food using more traditional agricultural methods. Vertical farming is part of a ‘land sparing’ focus which involves the intensification of agricultural production in some places to allow for biodiversity conservation in others (e.g. through ‘rewilding’). **Land sharing, such as agroecological approaches, instead involve farming practices that also have environmental (including biodiversity) benefits.** We believe it is essential to focus on practises which focus on ‘land sharing’ rather than ‘land sparing’, as this has greater environmental benefits overall.

g) This method is designed for remote control operation and robotics with minimal human input. There will be a low number of jobs associated with each new business: specialist IT operators and some low-quality jobs (cleaning, routine maintenance, packaging and driving).

Reducing labour requirements is often one of the ‘benefits’ put forward for vertical farming, but we strongly oppose this narrative. For too long productivity has been measured as output/unit of labour - completely missing the point that **we need meaningful, skillful and exciting land-based employment opportunities.** There is no intention from the vertical farming sector to increase job opportunities in food production, as the jobs that are created are high-tech and very high-level (often PhD level and up).

h) Seasonality does not apply as crops can grow all year round with artificial light and heating. **This growing method therefore works against connecting people with nature.** Connecting people with food forms an integral part of the Local Food Strategy.

i) **Freshness is addressed with packaging, not by shortening supply chains and ensuring that the time between production and consumption is reduced.** Freshness should include considerations of the nutritious value and taste of food that is not grown in soil. Little is known about the nutritional value of plants grown hydroponically in comparison to soil grown plants, and this important factor is not addressed in this consultation.

j) Clearly there is a large upfront investment that is typically not manageable for smaller producers but attractive to large national operators and investors who can carry this through on a large scale to benefit from economies of scale. In doing so, the potential benefits of these investments are experienced not locally by communities but by larger national operators. **The government support required to help set-up agroecological businesses (e.g. an average grant of £50,000:**

<https://landworkersalliance.org.uk/wp-content/uploads/2018/10/New-Entrants.pdf>) which are likely to generate at least 2.5 times this in benefits for the local economy, is relatively very low to the £200,000 that Scottish Government has now invested in a single vertical farm at SRUC, without clear evidence on how this is to generate any public benefits.

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

Tick all that apply.

- a. Regulatory barriers
- b. Capital expenditure costs x
- c. Economic return/cost per unit too high x
- d. Lack of supply chain integration
- e. Lack of awareness of vertical farming techniques x
- f. Lack of knowledge or skill in vertical farming techniques x
- g. Lack of market
- h. Other
- i. None

On b: There are lots of barriers for doing this on a small scale. On a large scale, however, these barriers can be overcome by large national operators such as supermarket chains with investment capital which makes it a method that moves in the opposite direction from localising the food system. It is instead associated with the negative features of our broken food system: **it benefits not communities but large monopolies which already dominate large parts of our food system - disempowering farmers and communities.** It generates very few jobs, uses high energy, increases the need for packaging, generates more food miles and thereby increases overall GHG emissions.

On c: **The cost per unit would be driven down by large scale monocropping, to the commercial advantage of the investment company.** Large scale monocropping will increase food miles and the need for packaging, lengthen supply chains and carry investment benefits away from local communities.

On d and g: The products of these vertical farms run by large companies would be integrated into existing national supply chains in similar ways as the current system operates around large suppliers and distributors. **Local short supply chains would be undermined and outcompeted by this additional produce, in similar ways as they are currently.**

On e and f: In that this is a highly specialised sector, it is **unlikely that raising awareness of it and widening uptake of the skills needed to operate it is likely to benefit Scotland's local domestic economy or community**. This might be of interest as an export-focused specialism targeting wealthy clients in dry and hot, water-scarce settings such as, for example, the Arabian Peninsula and the Southern States of the USA.

B) Please give examples.

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

a. Yes

b. No

B) If you responded 'Yes' to the question above, please provide examples.

Agroecological farming is **knowledge intensive and requires a holistic approach to research and development**, across disciplines and academic and practical spaces. It requires research beyond a more narrow and sectoral focus on technological innovation only.

We want to see significant R&D investment into knowledge and technologies that are affordable and can be widely implemented, that benefit farmers rather than big agricultural businesses providing inputs. Innovation resulting from research does not necessarily have to mean hi-tech, capital intensive interventions, but can include application of traditional skills and knowledge in innovative ways, or adapting traditional husbandry according to insights gained from either farmer to farmer innovation or academic research. Topics include composting technologies, heritage seeds, on-farm and food waste-based animal feeds, horticultural and low emissions equipment, all of which minimise the use of external inputs.

Government-led R&D also needs to be more accessible for practitioners like farmers.

R&D programmes and application processes can be very difficult to navigate, especially for those from outside the academic community and those working under restricted capacities.

Better support for organisations like the LWA to guide practitioners through the systems and processes **is essential to ensure that research has more practical impact.**