



Governance, investment and procurement policy

The role of South Yorkshire Local Authorities, Mayoral Combined Authority and anchor institutions in food system transformation

By Kane Regan

Produced in collaboration with the University of Sheffield, Regather and ShefFood



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The Institute for Sustainable Food

The Institute for Sustainable Food at the University of Sheffield finds dynamic solutions to the challenges of food security and sustainability. Our innovative research draws on the fields of science, engineering, social sciences, and arts and humanities.



Regather

Regather is a co-operative of local people working to improve food and build community in Sheffield. We run an organic farm, veg box scheme, and many other community projects.



ShefFood

ShefFood is a cross-sector partnership of organisations across the city formed of local public agencies, businesses, individuals, academic and community organisations committed to working together to create a more sustainable food system for Sheffield.



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Foreword

With food systems responsible for around one-third of global greenhouse gas emissions (Nature Food 2021) and with agriculture recognised as the biggest threat to the estimated 86% of plant and animal species at risk of extinction (Chatham House 2021), it is now clear that the way we produce our food urgently needs to change.

Despite this knowledge, government continues to fail at every level, from global to local, to establish the appropriate policy frameworks for food system transformation. For example, COP27 was billed as 'the food systems COP', but focused narrowly on supply side agriculture issues dominated by global agri-food corporations, and failed to adopt a holistic food systems approach to include issues such as food waste and loss, nutrition, sustainable diets and resilient supply chains. The UK Government's dismal response to Dimpleby's National Food Strategy report represents another missed opportunity, greeted with dismay and disappointment, failing to give the challenges of food security and sustainability the urgent response that is required if we are to provide affordable, safe and nutritious food for all while living within planetary limits.

The many examples of government failure, at home and abroad, reinforce the importance of local action and innovation if we are to make our food systems sustainable and fair. To achieve food security, "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO 2009), we all urgently need to reflect on what we can do as individuals and communities to lessen the impact of the food that we eat on the natural world, to allow us to exist within the constraints defined by our Planet's limited resources. The COVID-19 crisis revealed the vulnerability of our food system, plunging people who never imagined that it would affect them into food insecurity, almost overnight. The global supply chains on which our current food system is based are fragile and this realisation has highlighted the need to develop our local and regional food production capacity to help mitigate these risks.

In 2022, Regather teamed up with the University of Sheffield's Institute for Sustainable Food to create a 'Local Food Systems Policy Accelerator' to develop evidence-based food system policy change in Sheffield. As part of the project, eight students were recruited to conduct original research into food system issues affecting Sheffield. The student researchers were asked to identify the mechanisms or 'levers for change' that can hasten the development of more sustainable food systems and infrastructure throughout Sheffield. They were given access to the assessment frameworks created



by Sustainable Food Places (SFP), to provide them with an insight into the multi-faceted world of food systems. SFP has previously granted Sheffield a Bronze Award, recognising the standards already achieved with the city. The work to achieve a Silver Award is underway, supported by the creation of Working Groups on specific subject areas within ShefFood, Sheffield's food partnership, and the creation of a Food Action Plan for Sheffield. This important work has in various ways been informed by the research undertaken and the evidence collected by the 'Local Food System Policy Accelerator' team.

We hope you find this report interesting and informative, and that you will join us in commending the student researchers responsible for making their time and effort available, and for contributing their skills and intellectual resources to tackling the critically important challenge of food system transformation.

Gareth Roberts, Co-Founder & Director of Regather

Professor Peter Jackson, Director of the Institute for Sustainable Food at the University of Sheffield



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1.0 Executive Summary

Formed in partnership with Regather, the University of Sheffield and ShefFood, the contents of this report seeks to encourage the transformation of food policy in the South Yorkshire region. With a focus on the ways in which Local Authorities, the Mayoral Combined Authorities and Anchor Institutions can make a difference, this report addresses how local food systems can make a difference in a world where our current food-system practices threaten the well-being of both our people and our planet.

Local Authorities, the Mayoral Combined Authorities and Anchor Institutions hold the power to be leading examples in the communities for which they are responsible. By reviewing a range of evidence concerning the negative effects of our current food system, and by discussing how local food systems encourage regenerative and valuable transformation, this report outlines a series of policy recommendations through which these key organisations can lead the region towards food system reform.

2.0 Introduction

'The food system we have today is both a miracle and a disaster,' states Henry Dimbleby in part 2 of The National Food Strategy.¹ Despite the human population rising to its historical apogee—now 7.9 billion people globally—the advancements in modern intensive agriculture ensure that we can produce more than enough calories, albeit if they are unevenly distributed.

Yet this food we eat, and the methods through which we produce it, wreaks considerable damage upon both our planet and our health. The global food system is associated with many urgent problems: it is the single largest contributor to biodiversity loss, deforestation, drought, freshwater pollution and the collapse of aquatic wildlife. It is one of the leading causes of greenhouse gas emissions and, as the current pandemic reveals, has a strong association with zoonotic disease.

It comes as a surprise then, considering recent events have seen food and farming hugely impacted by a cascade of lockdown restrictions and climate emergencies, that food systems have remained largely absent from policy responses. A surprise which is perhaps best rephrased as a concern, when also taking into account the Government's legal commitment to reduce the UK's carbon emissions to net zero by 2050, and their pledge to ensure that 30% of our land is protected for nature by 2030. The farming sector itself is required to become carbon neutral, something the National Farmers' Union has already committed to.

Adding to these critical time frames, food policy in the UK is itself in a state of flux. The recent departure from the European Union requires the UK to take responsibility for many areas of food regulation previously overseen by the EU, allowing an opportunity for clean-sheet approaches to agriculture and trade. As Lord Donald Curry observes: 'the importance of making the case for investment and policies that will support better food and farming, and within this the role of local food systems, has rarely been more time critical.'²

What emerges then, from the challenges presented here, is both the need and potential for more farmer-focused, localised food systems. A direction that can form an integral part of a diversity of approaches aimed at reshaping our current food system.

But the successful growth of these systems cannot occur passively. They depend upon the support of stakeholders, both national and local, in order to secure real change: a change with great potential to enrich livelihoods and communities, all while helping to address our most pressing climate crisis.

¹ <https://www.nationalfoodstrategy.org/>

² <https://www.sustainweb.org/publications/the-case-for-local-food/>



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For food and nature are inextricably linked, and agriculture's tendency to drive nature towards destruction also has the potential to be reversed.

In the following report, we summarise the pitfalls of the current food system and demonstrate how a reformed, adequately supported local food system could play a vital role in addressing the climate and nature emergency. We demonstrate how these reformed approaches have the potential to provide real value for money and substantial public benefits. However, without the necessary support, these benefits will not automatically arrive. As Lord Curry states: 'National and local governments, enterprises and community networks all have roles to play to secure the positive impacts of local food and take more active roles in growing and managing local food systems through policies, procurement and investments'.³

³ <https://www.sustainweb.org/publications/the-case-for-local-food/>

3.0 Impacts of the Current Food System

As we have identified, the current food system under which we operate is harming both our planet and the species encompassed within it. In the following section, we review several of the most critical and interconnected themes which pose threats to people and planet. The section is divided into five subtopics:

- Human health
- Biodiversity loss and abiotic damage
- The water and nitrogen cycle
- The carbon cycle and climate crisis
- Disease

3.1 Human Health

The combination of industrial progress and advancements in food technology has led us to a market now flooded with ultra-processed food products (UPP). These foods are designed to be “convenient, eaten on the go, hyperpalatable and appealing to consumers, and, most importantly, the most profitable segment of Big food companies’ portfolios because of these foods’ low-cost ingredients”.⁴

The market for unhealthy food is vast, causing businesses to invest more into developing and marketing unhealthy food products. As a result, the market expands further still, creating greater economies of scale. These highly processed foods are on average three times cheaper per calorie than healthier foods. This is one of the causal factors relating bad diets with communities of lower financial security.

This cycle of junk food consumption has had devastating effects on the health of our UK population. Almost three in ten of our adult population is obese, with almost one in three people over 45 in England determined clinically obese.⁵ The UK is now listed as the third-fattest country in the G7.⁶ This crisis of consumption massively increases the risk of developing chronic illnesses. In England, one in three people over the age of 45 suffers from diabetes or a heart condition. Whether these conditions are the consequence of obesity or not, bad dietary health is both a common and significant factor.

Our bad dietary health has also played a major role in the UK’s tragically high death rate during the COVID-19 pandemic. There is a strong correlation between obesity and the likelihood of becoming

⁴ Caitlin Scott; Sustainably Sourced Junk Food? Big Food and the Challenge of Sustainable Diets. *Global Environmental Politics* (2018); 18 (2): pp. 93-113. doi: https://doi.org/10.1162/glep_a_00458

⁵ <https://commonslibrary.parliament.uk/research-briefings/sn03336/>

⁶ UK is the third fattest country in the G7: World Health Organization. (2016). Global Health Observatory data repository: Prevalence of obesity among adults, BMI ≥ 30 , age-standardized - Estimates by county. Available at: <https://apps.who.int/gho/data/node.main.A900A?lang=en>

severely ill or dying from COVID-19.⁷ Studies show that the risk of death from COVID-19 is 1.5 times higher if you are obese, rising to 2.25 times more likely if you are severely obese.⁸ Those with Type 2 diabetes (both controlled and uncontrolled) are 81% more likely to die from COVID-19.⁹

3.2 Biodiversity Loss and Abiotic Damage

Where the human population has more than doubled in the past fifty years—from 3.8 billion in 1972 to 7.9 billion in 2022—animal populations have withered. This swell in human reproduction has resulted in many mouths to feed. Nearly 50% of the world's habitable land is now used for agriculture. With industrialisation and technology lowering their prices, our penchant for meat and dairy has increased dramatically. 77% of the world's farmland is now utilised to either graze animals or produce the crops to feed them,¹⁰ a figure which rises to 85% when considering UK land.¹¹

“The combined weight of animals bred for food is now ten times the combined weight of all wild mammals and birds together.”¹² This is a shocking statistic. Since the dawn of human civilisation the biomass of wild mammals has fallen 85%,¹³ with a quarter of all remaining mammal species currently threatened with extinction. This figure is set to increase as more and more of their natural habitats are converted into land for food production. Henry Dimbleby provides an assessment from a UK standpoint in his National Food Strategy:

“The side effects of the Green Revolution are not limited to our health. As the amount of food being produced from a given area of land has increased, the amount of other life occupying that same area of land has decreased. In the UK, where 70% of our landmass is occupied by farmland, intensive agriculture has devastated the habitats of many wild animals and insects. Since 1930, we have lost 97% of our wildflower meadows, half our ancient woodland, 56% of our heathland, and 90% of our lowland ponds. As wheat yields in the UK doubled from 1970 to today, the number of farmland birds decreased by 54%. The UK now sits in last place on the European farmland bird index. More broadly... there has been a 60% decline in priority UK species since 1970, with a 22% decline since 2011.”¹⁴

The damage is not limited to our biodiversity alone. Our abiotic systems are suffering too. An abiotic system refers to the cycle whereby nature recycles non-living things. The most prevalent of these systems include our water, nitrogen and carbon cycles. These cycles are crucial to maintaining the delicate balance of life on Earth.

⁷ <https://www.gov.uk/government/news/excess-weight-can-increase-risk-of-serious-illness-and-death-from-covid-19>

⁸ Williamson, E. et al. Factors associated with COVID-19-related death using OpenSAFELY. *Nature* (2020) 584, pp. 430-436 Available at: <https://www.nature.com/articles/s41586-020-2521-4>

⁹ Barron, E. et al. Type 1 and Type 2 Diabetes and COVID-19 Related Mortality in England: A Whole Population Study. *SSRN Electronic Journal* (2020) Available at: <https://www.england.nhs.uk/wp-content/uploads/2020/05/valabhji-COVID-19-and-Diabetes-Paper-1.pdf>

¹⁰ <https://ourworldindata.org/global-land-for-agriculture>

¹¹ De Ruiter, H. R., Macdiarmid, J. I., Matthews, R. B., Kastner, T., Lynd, L. R., & Smith, P., Total global agricultural land footprint associated with UK food supply 1986-2011. *Global Environmental Change*, 43, (2017) pp. 72-81. <https://doi.org/10.1016/j.gloenvcha.2017.01.007>

¹² Broughton, J. and Weitzel, E. Population reconstructions for humans and megafauna suggest mixed causes for North American Pleistocene extinctions. *Nat Commun* (2018) 9, 5441. Available at: <https://doi.org/10.1038/s41467-018-07897-1>

¹³ <https://ourworldindata.org/wild-mammal-decline>

¹⁴ <https://www.nationalfoodstrategy.org/> p. 41

3.3 The Water Cycle

Though fresh water only constitutes 3% of the world's water, it is essential for most of the world's land-based species.¹⁵ Agriculture uses 70% of all the freshwater on Earth,¹⁶ inducing a series of issues, from water shortages to drought, harvest failure, famine and even war. Although the UK's wet, temperate climate ensures that it is less likely to suffer the direct consequences of these impacts, we contribute to this problem by importing from drier regions. Despite our buffer, the pumping of groundwater to irrigate fields is a significant cause of droughts during hotter summer months.

3.3.1 The Nitrogen Cycle

It is through absorbing forms of nitrogen that plants are able to perform many of their vital functions. Bacteria located in the soil converts nitrogen from the atmosphere into nitrates and nitrites, which are then absorbed by plants. When the plant is returned to the soil at the end of its life cycle, a different set of bacteria "denitrifies" the matter, converting it back into nitrogen gas which is then released into the atmosphere.

Since the invention of the Haber-Bosch process at the start of the 20th century—the method by which all industrial fertilisers are made—intensive farming has proven to critically disrupt this cycle. While this process alone releases huge amounts of carbon (1% of global greenhouse gas emissions),¹⁷ once spread on the fields, this industrial fertiliser often leaches into our watercourses with many adverse effects.

Nitrogen run-off from farms leads to high levels of eutrophication. Eutrophication leads to excessive nutrients in the water, causing a dense layer of plant and algal blooms to form on the surface. These blooms grow so thick as to prevent light penetrating the water, throwing entire ecosystems into darkness. This disruption impedes the growth of other plant species, and hinders the ability for fish and other animals to hunt, often leading to starvation. When these algal blooms decompose, oxygen is sucked out of the water, creating dead zones in lakes and oceans. In England, only 16% of our surface and ground waters meet the criteria for "good ecological status," while none of our lakes and rivers meet the criteria for "good chemical status."¹⁸ Our waters are some of the most polluted in Europe.

3.4 The Carbon Cycle and the Climate Crisis

The carbon cycle is often grouped within the umbrella term of greenhouse gases (GHGs), a term covering several gases—predominantly carbon dioxide, methane, and nitrous oxide—all of which contribute to the climate crisis in various ways. The global food system is responsible for up to one-third of all greenhouse gas emissions.¹⁹ In the UK alone, our domestic food system contributes to 20%

¹⁵ <https://www.worldwildlife.org/threats/water-scarcity>

¹⁶ <https://www.worldwildlife.org/threats/water-scarcity>

¹⁷ D.R. Kanter, S.M. Ogle, W. Winiwarter., Building on Paris: integrating nitrous oxide mitigation into future climate policy, *Curr Opin Environ Sustain*, 47 (2020), pp. 1-6

¹⁸ <https://deframedia.blog.gov.uk/2020/09/18/latest-water-classifications-results-published/>

¹⁹ Crippa, M., Solazzo, E., Guizzardi, D. et al. Food systems are responsible for a third of global anthropogenic GHG emissions. *Nat Food* 2, (2021) pp. 198-209. <https://doi.org/10.1038/s43016-021-00225-9>

of our greenhouse gas emissions,²⁰ and this is ignoring GHGs generated through food imports. Our UK food system has also been slow to react with decarbonisation strategies, moving at only half the pace of the wider economy, whilst agriculture itself hasn't decarbonised at all in over a decade.²¹

The National Food Strategy identifies four major ways that the food system contributes to climate change:

1. Damage caused through converting wild areas to farmland, or farmland prevented from reverting to forest.
2. Carbon released from farmland soil, particularly peat soils
3. Fossil fuels used in every part of the food system
4. The release of two potent greenhouse gases, methane and nitrous oxide, from agriculture - by far the largest factor in the UK

Converting wild land to farmland is a punishing process for the environment. Tree burning in the Amazon rainforest alone has released more carbon into the atmosphere than seven years' worth of UK fossil fuel emissions.²² The UK's own forests were decimated long ago. In 5,000 BC, approximately 75% of UK land was populated by wildwoods.²³ However, as the appetite of human expansion required greater spans of land and resources, this figure shrank to 15% by 1086, the year the Doomsday Book was completed. At present, the figure sits at 10%, a slight increase from 6% at the end of the Second World War.²⁴

A more recent cause for concern on UK land is the destruction of peat bogs. Peat forms when plants grow on top of bogs. When these plants die, the bog prevents their matter from fully decaying. Under the wet, acidic, anaerobic conditions of the bog, this plant matter retains its carbon, rather than releasing it back into the atmosphere. Through this process, a peat bog is capable of sequestering up to 1.1 tonnes of carbon per hectare per year.²⁵

These peat bogs are formed over thousands of years, yet ploughed up within a matter of days. Due to its rich containment of nutrients, bogs can be transformed into nutritious and fertile farmland. Around 56% of the UK's peat bogs have been drained and converted to agricultural use over the space of merely a few centuries.²⁶ When these peat bogs are dried out, the preserved organic matter begins to be consumed by bacteria in the soil. Through this process, carbon in the peat is transformed into carbon dioxide, which is then emitted into the atmosphere. These emissions are

²⁰ Defra. 2008. The environment in your pocket.

²¹ <https://www.nationalfoodstrategy.org/> p. 21

²² Qin, Y. et al. Carbon loss from forest degradation exceeds that from deforestation in the Brazilian Amazon. *Nat. Clim. Chang.* (2021) 11, pp. 442-448. Available at: <https://doi.org/10.1038/s41558-021-01026-5>; European Space Agency. Forest degradation primary driver of carbon loss in the Brazilian Amazon. European Space Agency. (2021) Available at: https://www.esa.int/Applications/Observing_the_Earth/Space_for_our_climate/Forest_degradation_primary_driver_of_carbon_loss_in_the_Brazilian_Amazon

²³ Whitehouse, N. and Smith, D. How fragmented was the British Holocene wildwood? Perspectives on the "Vera" grazing debate from the fossil beetle record. *Quaternary Science Reviews*, (2010) 29,3-4. Available at: <https://doi.org/10.1016/j.quascirev.2009.10.010>

²⁴ Forest Research. Provisional Woodland Statistics 2021 edition. Edinburgh: Forest Research. (2021) Available at: https://www.forestresearch.gov.uk/documents/8092/PWS_2021.pdf; Forest Research. Area of Woodland: Changes Over Time. Forest Research (2021). Available at: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/forestry-statistics-2018/woodland-areas-and-planting/woodland-area/area-of-woodland-changesover-time/>

²⁵ https://www.forestresearch.gov.uk/documents/7912/20_0041_Leaflet_CC_factsheet_Peatlands_wip06_ACC.pdf

²⁶ UK Centre for Ecology & Hydrology. (no date). Peatlands factsheet. UK Centre for Ecology & Hydrology. Available at: <https://www.ceh.ac.uk/sites/default/files/Peatlandfactsheet.pdf>

substantial, with each hectare of lowland peat utilised for crop farming capable of emitting around 4 tonnes of carbon dioxide on average per year.²⁷ These figures become more alarming when taking into consideration that this land, which now emits carbon, has also lost its ability to sequester carbon.²⁸

Farms themselves require substantial amounts of energy to produce crops. The UK's farm systems are largely dependent on man-made herbicides, pesticides and fertilisers. The majority of today's fertilisers are created in large factories, whereby nitrogen from the atmosphere is synthesised with hydrogen atoms. These hydrogen atoms are harvested from fossil fuels at high temperature and under high pressure. The process of creating these fertilisers alone constitutes 1% of global carbon emissions.²⁹

As we have addressed when discussing the water cycle, these fertilisers are susceptible to polluting our water systems once they are spread onto the land. Whether remaining in the soil or occupying our water systems, these fertilisers are converted by bacteria into nitrous oxide—a GHG roughly 265 times more potent than carbon dioxide—adding a further 2% to global emissions.³⁰

In addition, two of the food system's largest drivers of the climate crisis emerge from methane and manure. Agriculture alone generates 50% of global methane emissions,³¹ with the majority generated by farming rice (fermenting bacteria in the wet soil of rice paddies give off large quantities of methane) and ruminant livestock, primarily cows and sheep. The combined output from the burping and manure of ruminant animals accounts for a staggering two thirds of the UK's farming emissions.

The sheer volume of these emission levels, as we have highlighted earlier, derives from our increased penchant for meat and dairy. Altogether, the combined weight of livestock is almost two times larger than all humans on Earth, with around 1.3 billion ruminants slaughtered for food annually.³² In response, the UK's Committee on Climate Change has proposed a minimum reduction of 37% in methane emissions from farming by 2050.³³ In order to achieve these targets, methane-reducing farming methods will not suffice alone. Globally, it is time we reduced our levels of meat consumption.

²⁷ Brown, P. et al. UK Greenhouse gas inventory, 1990 to 2019: annual report for submissions under the framework convention on climate change. Ricardo Energy & Environment. (2021) Annex 3. Available at: https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2106091119_ukghgi-90-19_Annex_Issue_2.pdf

²⁸ IUCN. UK Peatland Strategy. IUCN National Committee United Kingdom (2018). Available at: <https://portals.iucn.org/library/sites/library/files/documents/2018-015-En.pdf> p. 30.

²⁹ Gilbert, P., and Thornley, P. Energy and carbon balance of ammonia production from biomass gasification. In host publication. (2010) Available at: https://www.research.manchester.ac.uk/portal/files/33615474/FULL_TEXT.PDF ; Synthetic ammonia use: Smith, P. et al. Agriculture, Forestry and Other Land Use (AFOLU). Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter11.pdf

³⁰ <https://www.nationalfoodstrategy.org/> p. 74

³¹ Lynch J, Cain M, Frame D and Pierrehumbert R. Agriculture's Contribution to Climate Change and Role in Mitigation Is Distinct From Predominantly Fossil CO₂-Emitting Sectors. *Front. Sustain. Food Syst.* (2021) 4:518039. doi: 10.3389/fsufs.2020.518039

³² Bar-On, Yinon M., Rob Phillips, and Ron Milo. "The biomass distribution on Earth." *Proceedings of the National Academy of Sciences* (2018) 115.25 : 6506-6511.

³³ Committee on Climate Change. Land Use: Policies for a Net Zero UK. Committee on Climate Change (2020). Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/01/Land-use-Policies-for-a-Net-Zero-UK.pdf> , pp. 41-46.

3.5 Disease

As history repeatedly reminds us, infectious disease is a major risk associated with farming. Through the farming of livestock, diseases such as smallpox, malaria and yellow fever began jumping the species barrier, spreading infection through human populations.³⁴

Though intensive farming—through the tightly packing of livestock—has significantly reduced the affordability of meat, it has also significantly increased the threat of zoonotic diseases. The response has been to implement a perhaps excessive use of antibiotics in modern farming systems.

Excessive, for the microbes are fighting back. Many have now become resistant to antibiotics. The intensive farming of chickens and pigs is responsible for the majority of antimicrobial resistance globally, with some parts of the world now finding that microbes have evolved to resist 80% of the antibiotics used on animals.³⁵

Alongside these intraspecific diseases—those contained within a species—we must contend with the emergence of new interspecific diseases, those which transfer between species populations.

When clearing forests and wild spaces for livestock farming, those animals which tend to survive this habitat destruction are typically rats and bats. These animals also tend to be the most likely to carry viruses capable of infecting other species.

Once these viruses penetrate a livestock population, they can incubate and mutate until they are capable of infecting humans. When animals are intensively reared, they tend to be selectively bred and, as such, harbour nearly identical genomes. These near-identical genomes act as replication vessels for many viruses, increasing the chance of a rapid infection rate. Eight in ten of animals hosting viruses which cross into the human population are domesticated, with livestock the leading contributor.³⁶

³⁴ Wolfe ND, Dunavan CP, Diamond J. ORIGINS OF MAJOR HUMAN INFECTIOUS DISEASES. In: Institute of Medicine (US). Improving Food Safety Through a One Health Approach: Workshop Summary. Washington (DC): National Academies Press (US); (2012). A16. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK114494/> f

³⁵ Boeckel, T. et al. Global trends in antimicrobial resistance in animals in low- and middle-income countries. *Science* (2019) Available at: DOI:10.1126/science.aaw1944

³⁶ Johnson, C. et al. Global shifts in mammalian population trends reveal key predictors of virus spillover risk. *the Royal Society* (2020). Available at: <https://doi.org/10.1098/rspb.2019.2736>

4.0 Defining Local Food

A local food system is not simply determined by its geographical location. These systems—whilst they are typically marked by shorter supply chains—also offer a greater degree of diversity, employ practices which are modelled on regeneration over extraction, and pay producers fair prices for goods. A local food system allows for a diverse range of producers, products and production, whilst also employing transparent practices to engender closer relationships between producers and consumers.

A local food system adds resilience to the larger, overall food system. Investment in diverse, local production can increase our resistance to pests, disease and extreme weather. Evidence is now mounting which challenges the assertion that specialised, large-scale monoculture is the optimal way to produce food, whereby existing economics has tended to ignore external costs such as those to our health and environment.

In a report on local food systems developed by Sustain,³⁷ they outline the key markers of a local food system and the businesses which operate within them:

Businesses within the system are likely to:

- Be smaller in size, including independent, co-operatives or collaborations (including farmers)
- Mostly be using shorter/direct supply chains with fewer links between producer and customer
- Be farmer-focused with the majority of the sale price going to the producer.
- Be primarily - or significantly - sourcing from, and selling to, their local geographical areas
- Be owned - and therefore more likely to reinvest - independently and locally, rather than controlled by and for the financial benefit of distant shareholders and hedge funds with no connection to or interest in the local community.

The system is likely to:

- Be diverse in the profile of producers, products and production
- Be transparent, with sources and production methods clear and well-communicated
- Have local infrastructure to help businesses run effectively e.g. abattoirs, mills, distribution hubs

³⁷ <https://www.sustainweb.org/publications/the-case-for-local-food/>

5.0 How local food systems can benefit society

Though local food cannot inherently be defined as more sustainable, better for people and for nature, more often than not there is a strong correlation linking local food systems to these societal benefits.

5.1 Economic benefits

There are many economic benefits associated with local food systems. Shorter supply chains lead to a higher proportion of revenues being retained in the local economy, particularly by the producer, meaning there is a greater local value added.

These systems also demonstrate stronger local multipliers, whereby local producers and retailers are more likely to source their goods and services through local partners as opposed to national chains. A 2002 study by the National Economics Foundation (NEF) compared the multiplier effects of shopping for fruit and vegetables in a supermarket versus those acquired through a local organic box scheme.³⁸ The study concluded that every £10 spent through a box scheme resulted in total spending of £25 in the local area. This figure is almost double the comparative £14 result when the same amount was spent in a supermarket.

A more recent study by the NEF (2011) found that local procurement of school meals also has strong economic multipliers. Case studies demonstrated that for each £1 spent locally, there was a local re-spending of £1.19 in Nottingham and £0.85 in Plymouth.³⁹

³⁸ <https://neweconomics.org/uploads/files/plugging-the-leaks.pdf>

³⁹ https://neweconomics.org/uploads/files/8730d0b778c9021bab_cpm6b61os.pdf

Economic benefits: Case Studies

Totnes

grownintotnestoolkit.co.uk/our-story
reconomycentre.org/home/economic-blueprint/

The Local Economic Blueprint for Totnes and District, Local Economic Blueprint was undertaken in 2013. The report estimated the potential value of four key sectors of our localised economy, including food. The research found that £30 million was spent annually on food and drink, of which just one third was spent in the 60+ vibrant independent food shops in and around Totnes. Encouraging people to shift just 10% of their weekly food spend to independent food shops would result in an extra £2 million to our local economy.

Better Food Traders

betterfoodtraders.org/

The Better Food Traders is a network of ethical food retail businesses who have come together to show a better alternative to the current food system. One that is good for people and the planet. The 27 Better Food Traders have a combined revenue of over £8 million from food sales to their 12,445 weekly customers. The members prioritise sourcing fruit and veg from small and medium scale agro-ecological UK farmers. They source via extremely short supply chains (frequently directly from growers), resulting in over 50% of the customer pound going back to farmers across the UK. This provides farmers with a reasonable, reliable return (compared with 9% of the supermarket retail pound). These radical retailers all have a mission to promote supply chain transparency and community education so that a localised and seasonal diet is easy to choose and easy to eat.

All our members create jobs within their communities and use pay ratios of 3:1 or lower, often operating as co-operatives, so big bonuses for directors or shareholders are ruled out and employees are paid fairly.

5.2 Employment Benefits

Relative to sales, local food systems often support higher levels of employment versus national chains. A 2012 study by The Countryside Charity (CPRE) estimated local food network's contributions to the economy.⁴⁰

They discovered that:

- Smaller independent local food outlets create a job for every £46k turnover, which is three times the return on investment of supermarkets. This means local outlets support three times the jobs of national supermarket chains. With just over 1 million employed in food retail currently⁴¹, a shift of 10% of supermarket trade to smaller independent outlets could provide a further 200,000 jobs.
- Research by Porter and Raistrick (1998) on the effects on employment following the opening of 93 edge-of-town supermarkets showed that over a four-year period, there had been a net loss of 276 jobs in a 10-mile radius of each of the supermarkets, equivalent to a national total loss of over 25,000 jobs.
- Producers involved in the local food economy employed on average 3.4 full-time workers compared to the regional average of 2.3 per farm.
- In certain towns - such as Ledbury, Otley, Penrith and Totnes - there are relatively high numbers of outlets selling local produce, a large number of suppliers and good availability. For their size, local food supports a relatively high number of jobs and turnover in and around these towns.
- Employment per hectare in Community Supported Agriculture systems is five times higher than the agricultural average. (Although subsequent research by the CSA network puts employment in these enterprises at 0.99 FTE per Ha, which is over ten times the national average of 0.08 FTE per Ha.)

A study conducted by the University of Essex, commissioned by the Soil Association, found organic farms provided 32% more jobs than equivalent non-organic farms due to higher labour requirements in field and through farm marketing roles associated with organic systems.⁴¹ Although not all food produced by local/short supply chains is organic, a higher than average percentage is.

Local food and drink can also bolster the tourism sector, with strong correlation between food, drink and tourism evident in many parts of the UK. A study for Defra by ICF (2016) found that a localised food and drink offer can enhance the tourism offer of rural destinations and offer benefits to rural businesses and economies⁴² by:

- Increasing the attractiveness of rural destinations and attracting additional visitors;
- Encouraging greater tourism expenditures, by enhancing the quality of the local tourism product, increasing expenditure per visit, supporting more productive jobs and higher added value and providing support for economic regeneration;
- Extending the tourism season; and
- Increasing the retention of tourism expenditures in the local economy (economic multiplier effects).

⁴⁰ <https://www.cpre.org.uk/resources/from-field-to-fork-2/>

⁴¹ <https://publications.parliament.uk/pa/cm200708/cmselect/cmenvfru/544/544we25.htm>

⁴² [http://randd.defra.gov.uk/Document.aspx?Document=13803_Ruraltourismandlocalfoodanddrink-Finalreport\(annexes\).pdf](http://randd.defra.gov.uk/Document.aspx?Document=13803_Ruraltourismandlocalfoodanddrink-Finalreport(annexes).pdf)



© Gettyimages

The scale of benefits was found to vary between locations and was most significant in areas with:

- A strong and varied supply chain that is willing and able to source produce locally;
- High levels of awareness and a good reputation for local food and drink amongst visitors;
- A high-quality tourism offer to attract and support high value visitors; and
- Strong support from public sector decision-makers and delivery bodies.

The study found that a strong local food offer can increase the overall size of a food economy, making comparisons between two tourist towns in Cornwall (Padstow and Bude) whose local food offer is at different stages of development.

Employment Benefits: Case Studies

Dynamic Food Procurement

dynamicfood.org/

Dynamic Purchasing Systems (DPS) are nothing new in the public sector - but until recently, such approaches to overcome barriers and provide access to the public sector for SME primary food producers have been difficult to implement.

By facilitating access to public sector markets for smaller scale, sustainable growers and maintaining strong price competition throughout the duration of the contract, DPS can improve the process of procuring, fulfilling and consolidating a large number of primary food and drink producers and delivering with a single catering kitchen order, invoice and delivery.

The system is being piloted currently in the southwest, in conjunction with Crown Estates, which if successful, could be rolled out UK-wide for public sector food buyers. The National Advisory Board for Dynamic Food Procurement aims to divert over 33% of UK public sector food and drink spend to fresh, local produce from sustainable SME producers by 2025.

Food tourism and a sense of place: Taste Causeway Northern Ireland

tastecauseway.com/

Northern Ireland's Causeway Coast is famed for its rugged, breath-taking landscapes and rich cultural heritage. Tourism is one of the key economic drivers in the area, the region was voted as the world's best region to visit by Lonely Planet in 2018.

The Causeway Coast is gaining growing recognition as a key destination for food tourism. Local artisans and producers offer a variety of high-quality produce from kelp, craft beer and meat and vegetables from local farmers.

In 2019, recognising the unique food offering in the area, Taste Causeway was established, with support from the local Council and Invest Northern Ireland. The initiative provides a collective brand and digital platform for local food producers, retailers and restaurants enhancing the economic benefits both for the producers and the local area in general, helping to unpin local food production.

With Covid-19, many members have experienced catastrophic disruption to their normal business. Taste Causeway has provided support for its members through these unprecedented times. Despite the recent difficulties, the foundations built by Taste Causeway provide numerous examples of the benefits of local food tourism. With the right support local food tourism can provide numerous benefits to the local economy, farmers, artisans and producers. Taste Causeway is being recognised for its approach in promoting the region as a top-quality food destination, coming runner up in an All-Ireland Foodie Destination Award and has been accredited as a Slow Food destination.

Pipers Farm

Thirty years ago Pipers Farm was a 50-acre, permanent pasture farm in Devon where Peter and Henri Greig reared native Red Ruby Cattle, which they sold to customers through their butcher's shop on the local High Street. Fast forward to today and Peter and Henri still run the 50 acre family farm, and Pipers Farm has become a sophisticated online marketplace for sustainably-produced British meat, dairy and grains.

"Working with a network of 30 small-scale family farms, Pipers Farm is providing healthy, high-welfare food straight to the homes of tens of thousands of people UK wide. Within our network, most of our partner farms are based within a 50-mile radius of Pipers Farm. We believe small-scale mixed farming is the most sustainable way to produce food.

Enabling a direct relationship between farmer and customer has been absolutely vital in times like the pandemic where local food systems have proved most resilient in being able to respond to consumer demand quickly, and ensure constant supply of good food. Our family farming business model is built around relationships, trust and respect for the work carried out by each person within the supply chain. Directly we employ 42 people, but indirectly our model impacts on the livelihoods of hundreds in a whole web of local businesses.

If we look to our future and the ecological and climate issues we face, livestock has a very clear role to play in the production of food (including grains and crops) and adding value to the sustainability of the farming system. Our farms rear native breeds on natural diets, in their natural environment. When farmed the right way, they contribute to healthy soil, biodiversity, and improving carbon sequestration.

Recently, Kantar reported that 630,000 more households bought from independent butchers in the year to Feb 2021, spending nearly 50% more per trip compared to other retailers. Evidence that value in local, quality meat is on the up. We need the next generation to see farming as a viable career and reassure them that it will be fit for purpose in 10-20 years time. We genuinely believe it'll be farming business models like ours which will stand the test of time."

5.3 Environmental Benefits

Though the environmental benefits of local food systems remain dependent upon the food in question and its modes of production, there is growing evidence that both producers and consumers engaged in these systems are driven towards environmental benefits.

A greater proportion of local food is associated with agro-ecological production than the produce of more mainstream, larger outlets. Box schemes, for example, are more likely to utilise the produce of agro-ecological farms.

A 2020 survey of box schemes found that 67% of the 101 respondents were small-scale producers who supplied up to 300 veg boxes a week to local communities, with the majority of these being organic. Fifteen were Community Supported Agriculture (CSA) schemes supplying under 300 boxes per week. Seventeen were larger box schemes supplying 300-2,000 boxes a week, with one large-scale organic box scheme supplying 55,000 boxes weekly pre-Covid-19.⁴³ Most box schemes contain organic produce in their range, and tend to contribute towards more beneficial land management and biodiversity conservation.⁴⁴ Studies evidence organic farming is more beneficial to biodiversity than modern food systems.⁴⁵

The tendency for contemporary farming systems to specialise in monocultures shows direct correlation with habitat destruction.⁴⁶ In a thriving local food economy, diverse farming systems employ a range of habitat and management practices which result in beneficial impacts for nature.⁴⁷ Research by CPRE (2012) backs this assertion by evidencing how local food webs bolster local diversity in the scale and type of farming, be it livestock, cheese or fruit cropping.⁴⁸ Furthermore, these systems allow for genetic diversity within breeding practices. By rearing rare breeds, heirloom and heritage varieties not suited to large-scale processing and distribution systems, we can help improve the resilience of the overall agricultural system in a period marred by climate change.

Although many practices involved with local food systems have a positive impact on climate change, this is not to say that they are an all-encompassing solution. The principle of "right crop, right place" must always remain in consideration, for example tomatoes grown in Spain and Italy demonstrate a smaller GHG footprint than most grown in the UK, whereby the latter normally require heated greenhouses.⁴⁹ Some research also suggests that large-scale transport operations contain economies of scale offering greater efficiency than individuals driving to a local farm shop, for example, should their delivery vans be relatively full.⁵⁰

⁴³ Wheeler (2020) <https://foodfoundation.org.uk/publication/covid-19-uk-veg-box-scheme-report>

⁴⁴ E. Brown, S. Dury, M. Holdsworth., Motivations of consumers that use local, organic fruit and vegetable box schemes in central England and southern France, *Appetite*, 53(2) (2009), pp. 183-188

⁴⁵ Hole, D. G., Perkins, A. J., Wilson, J. D., Alexander, I. H., Grice, P. V. & Evans, A. D., Does organic farming benefit biodiversity? *Biol. Conserv.* (2005) 122, pp. 113-130

⁴⁶ Robertson, Robert A., Sutherland, William J. "Postwar changes in arable farming and biodiversity in Great Britain", *Journal of Applied Ecology* Issue 1, (2002) pp157-176, Landscape diversity section

⁴⁷ Frankowska, A, H. Kumar Jeswani, and A. Azapagic. "Environmental impacts of vegetables consumption in the UK." *Science of The Total Environment* 682 (2019) pp. 80-105.

⁴⁸ <https://www.cpre.org.uk/resources/from-field-to-fork-2/>

⁴⁹ Frankowska, A, H. Kumar Jeswani, and A. Azapagic. "Environmental impacts of vegetables consumption in the UK." *Science of The Total Environment* 682 (2019) pp. 80-105.

⁵⁰ Coley, D., M. Howard, and M. Winter. "Local food, food miles and carbon emissions: A comparison of farm shop and mass distribution approaches." *Food policy* 34.2 (2009) pp. 150-155.

However, this should not detract from the number of ways in which local food systems contribute to climate benefits. Sustain's 'The Case for Local Food' (2021) numbers a series of contexts:

1. Produce is much more likely to be from "right crop right place" - investigations into the range of UK schemes,⁵¹ including the "big players"⁵² strongly suggests that the UK box scheme market continues to offer produce with lower production emissions.
2. Lower food miles and storage emissions. Refrigerated transport, storage in regional distribution centres, and refrigeration in stores means large-scale retailers add significantly to the climate emissions of UK vegetables (4-45% depending on the product). Retailer supply chains add 69g CO₂e per kg to emissions for potatoes and 959g CO₂e for strawberries, for example. Food businesses that offer produce direct from farms or with minimal storage cut out a big chunk of those emissions. Markhussen et al (2014) calculated that for each kg CO₂ emissions in the "distribution phase" of a small-scale box scheme, conventional long supply chains emit 3kg.⁵³ Ultra local supply systems such as milk vending machines have also been shown to have a lower environmental impact.⁵⁴
3. Avoiding air-freighted food - air-freighted produce comes with a colossal carbon footprint. In the UK, 70% of the beans, peas and asparagus in our supermarkets are air-freighted, and this adds 4-6kg CO₂ equivalent to their carbon footprint per kg (at least 75% of their emissions are from transport). By comparison, a study of 228 box schemes across four countries (including 147 from the UK) found that 41% boxes used produce from their own farms, 76% within 100km.⁵⁵
4. Reducing food waste - About a third of the food grown globally is never eaten - a shameful waste of resources and an enormous source of greenhouse gas emissions, and while there has been growing support for individuals to reduce household level waste (like the Love Food Hate Waste campaign),⁵⁶ buying through shorter supply chains could help reduce waste in the food system. The long supply chain model generates a high percentage of post-farm loss, estimated at between 3% and 10% at the retail and distribution stage from over-ordering, grading, storing and packing loss.⁵⁷ Feedback's research suggests that farm-level waste due to cosmetic standards is about 7.4%, though much higher for some crops, and overall waste thanks to supermarket demands for overproduction are 10-16%.⁵⁸

⁵¹ Kummer S, Milestad R. The Diversity of Organic Box Schemes in Europe—An Exploratory Study in Four Countries. *Sustainability*. 12(7):2734 (2020) <https://doi.org/10.3390/su12072734>

⁵² <https://www.ethicalconsumer.org/food-drink/whats-veg-box>

⁵³ Markussen MV, Kulak M, Smith LG, Nemecek T, Østergård H. Evaluating the Sustainability of a Small-Scale Low-Input Organic Vegetable Supply System in the United Kingdom. *Sustainability*. 6(4), (2014): pp. 1913-1945. <https://doi.org/10.3390/su6041913>

⁵⁴ Pereira, Ángeles, et al. "Fresh milk supply through vending machines: Consumption patterns and associated environmental impacts." *Sustainable Production and consumption* 15 (2018): pp. 119-130.

⁵⁵ Kummer S, Milestad R. The Diversity of Organic Box Schemes in Europe—An Exploratory Study in Four Countries. *Sustainability*. 12(7):2734 (2020) <https://doi.org/10.3390/su12072734>

⁵⁶ <https://www.lovefoodhatewaste.com/>

⁵⁷ Terry, L. A., Mena, C., Williams, A., Jenney, N., & Whitehead, P. Fruit and vegetable resource maps: Mapping fruit and vegetable waste through the retail and wholesale supply chain. WRAP, (2011) RC008.

⁵⁸ <https://feedbackglobal.org/research/farmers-talk-food-waste-supermarkets-role-in-crop-waste-on-uk-farms/#:~:text=Farmers%20we%20surveyed%20reported%20reported,a%20day%20for%20a%20year.>

On the other hand, the shorter supply chains of local food systems result in less food waste, whereby pre-ordering can lower overproduction and there is a broader criteria of aesthetic standards when compared with supermarket requirements.⁵⁹ Although the climate benefits of local food are not always easily discernible—largely due to their increased levels of diversity—it is evident that the distribution and retail processes of long supply chains are resource intensive, leading to higher waste when compared with localised systems.

Shorter supply chains are also more likely to transport produce from farm to customer quicker, resulting in a longer shelf life and help prevent waste. Regional food and producer groups, food hubs, public-transport accessible locations and zero-emissions delivery could all help to address the challenge that sometimes driving to a farm shop is less efficient than doing all your shopping in one place.⁶⁰

It is clear that more research into the emissions of both farming and distributing local food is necessary to allow for better comparisons. So too, must we collate evidence regarding the origins of produce sold in localised supply chains, such as restaurants, market stalls and recipe-kit box schemes. However, even in the absence of this data, the climate benefits associated with shorter supply chains and directly supplied goods are evident.

⁵⁹ Markussen MV, Kulak M, Smith LG, Nemecek T, Østergård H. Evaluating the Sustainability of a Small-Scale Low-Input Organic Vegetable Supply System in the United Kingdom. *Sustainability*. 6(4), (2014): pp. 1913-1945. <https://doi.org/10.3390/su6041913> AND Baker, N., Popay, S., Bennett, J. and Kneafsey, M. 2019. Net Yield Efficiency: Comparing Salad and Vegetable Waste between Community Supported Agriculture and Supermarkets in the UK. *Journal of Agriculture, Food Systems, and Community Development*. 8, 4 (2019), pp. 179-192. DOI:<https://doi.org/10.5304/jafscd.2019.084.013>.

⁶⁰ <https://www.sustainweb.org/publications/the-case-for-local-food/>

Environmental Benefits: Case Studies

Lunan Bay

lunanbayfarm.com/

Local nature-friendly food systems in action: Adaptability of local food supply and the importance of investment in local food systems.

Founded by farmer Neil McEwan in 2016, Lunan Bay Farm are producers of sustainable ingredients located at their beachside farm in Angus, Scotland. With help from his wife Jillian McEwan, Neil rears over 400 goats, grows honeyberries and asparagus. They are members of the Nature Friendly Farmers Network.

Since they started their farm business Jillian and Neil have been keen to run the farm sustainably - reducing its environmental footprint, improving its value for nature and increasing the nutritional value of its output. They joined a local RSPB initiative to help corn buntings. The regular monitoring has made them more aware of the wildlife on the farm. They have also significantly reduced artificial fertilisers and are using the goats to improve the carbon content of the soil. They grow asparagus which is a permanent crop meaning they can crop it continually for up to 10 years.

The Coronavirus pandemic hugely impacted the business. Most of the asparagus had been pre sold to restaurants so they had to pivot to new markets. Luckily the response from small independent retailers was amazing and they hope that these new routes will remain an outlet once the restaurants reopen. A number of local food hubs have also helped sales, linking them to new markets. The business relies on local infrastructure including a small abattoir. Without it the business would not be viable. This processing infrastructure for grain as well as livestock is crucial for local food economies and is worthy of public support because of the benefits it makes possible in terms of resilient local food production.

Neil and Jillian take an entrepreneurial approach to the farm. Although they welcome grants for diversification and support for nature improvements they do not want to be reliant on government funding. They want the government to invest in the local food infrastructure so they are able to get a fair price for the sustainable, healthy food they produce.

Lynbreck Croft

The vision for Lynbreck Croft is to create a joined up network of habitats where people and wildlife live alongside in harmony and food is produced for the local community. All of our decisions are driven by achieving positive environmental outcomes in order to ensure the long-term natural health of the land. We run a small fold of Highland Cattle for beef, rare breed Oxford Sandy and Black pigs for pork, laying hens for eggs and bees for honey.

We sell all of our produce direct to build regular relationships with our customers and maximise financial return. We also offer added value produce which we create on-site in our micro butchery. Our business model mimics natural systems in embracing diversity, giving us greater resilience in times of uncertainty from a variety of income streams.

We live in an area with low population density which means that establishing a healthy and reliable customer base can be a challenge. However, we have found that with positive communication of approach to farm with nature and quality of goods, we are now in a situation where we have a number of repeat customers with growing interest from others for our produce.

Slade Farm, South Wales - mixed farming with nature in mind

Slade Farm is a mixed, tenanted 300 hectare, family-run organic farm, four miles outside of Bridgend, on the Glamorgan heritage Coast. It produces high-quality pork, lamb, beef and mutton, as well as growing cereals for Welsh flours. In addition, for the past five years it has organised "5 Mile Veg" - Community Supported Agriculture (CSA) providing locally grown vegetables through the summer and autumn to families in the surrounding area who have signed up. Direct revenues are supported by the meat sales in the farm shop and butchery, located on the main farm holding in St Brides and through a monthly meat box scheme available for delivery to much of the wider area. In addition, farm and garden visits, and on-site camping and holiday cottages both supplement farm income and enable opportunities for local engagement with the nature on farm.

The farm, which contains a SSSI and other key meadow habitats, has been supported since 2000 through agri-environment contracts with the Welsh Government. These have helped fund bi-annual hedgerow management, hay meadow restoration, spring sown cereals and pulses, over-winter stubbles, reduced grazing pasture management, wetland management, streamside corridor establishment, pond and wildlife habitat creation, and red clover ley establishments for pollinators. This government support has been vital for the farm to be managed with nature in mind but additional income from direct sales to the local economy have helped create more stable income streams, foster a closer relationship to local consumers, and ease some of the financial pressure on farm profitability. While nature-friendly management can (continued from page 24)

reduce yields to the core cattle, sheep and arable production, the environmental biodiversity yields have increased exponentially, while national farmland biodiversity has continued to suffer. Wildlife recorded on the farm over the past few years has included various species of mammal (brown hares, polecats, pipistrelles and lesser horseshoe bats, weasels) and birds (choughs, barn owls, skylarks, lapwings, linnets, yellowhammers, reed buntings, spotted flycatchers, marsh tits, house sparrows, tree sparrows, grey partridges, bullfinches, starlings, song thrushes, peregrines, buzzards, meadow pipits, rock pipits, stone chats, yellow wagtails, swallows, snipes, curlews, goldfinches, green woodpeckers and great spotted woodpeckers, as well as a host of invertebrates, flowering plants and lichen. Slade Farm is a member of the Nature Friendly Farming Network.

Growing Communities

growingcommunities.org/

Growing Communities (GC) is a not-for-profit organic food business in Hackney, north-east London. They run a thriving veg bag scheme, the only 100% organic/biodynamic farmers' market in the country, a patchwork of small growing sites in Hackney and a 1.5 acre farm in Dagenham.

GC has successfully provided an alternative local food system in Hackney for 25 years, providing a steadily expanding route to market for small, agroecological farms mostly within 60 miles of London. GC recently conducted a study with the New Economics Foundation (NEF) and the Soil Association, called "Farmer-focused Routes to Market" which found that for every pound spent buying organic food through a farmers' market or veg scheme, almost £3 more is generated in benefits to farmers and growers, their workers, local suppliers, citizens and the environment. Growing Communities' core operations generated an estimated

£6,294,000 in social, economic, and environmental value and they ensure sustainable farmers can survive. To illustrate this: they pay their organic farmers 80p or more for a kilogram of potatoes, while the conventional farmgate price is around 15p a kilo.

For staff, farmers and the people who eat the food, the biggest impacts were improved general health, greater sense of community and social interactions, and wellbeing from managing better financially. The greatest impacts environmentally were in carbon sequestration, water quality and reduced greenhouse gas emissions. The research shows that short, local supply chains enable environmentally beneficial production and distribution to be economically sustainable.

5.4 Social Benefits

Local food systems are rich with a variety of social benefits. A 2012 study by CPRE revealed that Community Supported Agriculture (CSA) schemes correlate with more cohesive communities, skill sharing and higher employment figures, alongside more local processing and concern for the environment. Figures show that 55% of CSAs planted additional hedges and trees and 61% have introduced new wildlife areas.⁶¹

Local food systems also allow producers more commercial freedom to pursue their preferred farming practices. CPRE (2012) argues that local food webs, through adding value to traditional methods of land and livestock management, are better equipped to resist external pressures to intensify and industrialise production – practices associated with damage to habitats and landscape features.⁶²

Through more direct relationships between producers and consumers, local food systems can enhance public awareness of food production systems and provide an opportunity for customers to discuss preferences and concerns directly with the producer. Customers who gain a clearer understanding of the realities, challenges and impacts of food production are then able to reason how they can make a difference both individually and collectively.

Farmer's markets, for example, provide people with a direct connection to their food's source. They are able to learn, first-hand, how to cook unfamiliar vegetables or how their meat is reared, all while accessing a range of fresh, local, seasonal and specialist produce farmed with more environmentally sustainable methods.

Although the distance local food must travel to reach urban centres may be larger, many of the benefits discussed in this report still apply. Urban environments also tend to offer many options of direct supply through box schemes and farmers markets. With urban populations becoming further removed from traditional sources of production, the expansion of urban and peri-urban agriculture can offer many benefits to city-dwellers beyond simply a source of food. In *Fringe Farming*, a report by Sustain, it was found that:

Agroecological community farms in London have significant productivity, but their impact is far greater than just the volume of food they produce. Their active community programmes, volunteer engagement, training, and events, result in social, economic and physical and mental health benefits, reflecting the attention they give to other outcomes, in addition to the wildlife and ecosystem benefits of their farming methods. The report also highlighted significant land opportunities for additional agro-ecological farms on the edge of London to increase the public goods these shorter urban supply chains provide.

⁶¹ <https://www.cpre.org.uk/resources/from-field-to-fork-2/>

⁶² <https://www.cpre.org.uk/resources/from-field-to-fork-2/>

Social Benefits: Case Studies

Community Supported Agriculture (CSAs)

CSAs offer many benefits, but a key one is the social benefits of community involvement and direct supply. A study by the Soil Association on the impact of CSAs published in 2011, found that 70% of CSA members surveyed reported that their cooking and eating habits have changed, primarily through using more local, seasonal and healthy food; 66% say that their shopping habits have changed, principally through a shift to more local shopping in addition to buying through the initiative. Before joining a CSA initiative, 73% of members had shopped regularly at a supermarket; as members only 51% were regular supermarket shoppers.

The Soil Association found that 70% of over 400 individuals involved in CSA's found their overall quality of life has improved; 46% say their health has improved; 32% say they had developed new skills; 49% identify some other personal benefit. Employees frequently report high levels of job satisfaction from a supportive work environment and regular contact with the community the initiative supplies.

Almost half (45%) of CSA members feel that their initiative has had an impact on the broader community, often by bringing people together or providing a focal point for community activity. Many initiatives provide a service where none previously existed: not just direct provision of food from the initiative but in some cases wider services such as a village shop or farmers' market. Many also offer a wide range of social events and activities for participants and other community members.

Tamar Grow Local

Established in 2007, Tamar Grow Local CIC has created over 28 community food projects in the Tamar Valley including allotments, community orchards, a farmstart, online farmers market, produce co-operatives and also supports over 60 local producers to market and distribute Tamar Valley food.

Traditionally a vibrant market gardening area, cheap imports saw the decline of the industry from the 1960s and much of the area's productive growing spaces falling into decline. Through an interconnected food system of helping recreational growers move into farmstart businesses, creating an online farmer's market where producers set their own prices and by working in partnership with councils and housing associations in Plymouth to bring local produce into urban areas, Tamar Grow Local seeks to build a fair and resilient food system with community and environmental benefit.

Widening distribution through free collection points as well as home delivery and by maintaining short supply chains embedded in a not-for-profit Community Interest Company model enables prices to be fair for producers and consumers. In 2020, Tamar Grow Local paid over £159,000 to small local producers, distributed over 7 tonnes of vegetables to people facing food insecurities and health changes in partnership with the Grow Share Cook project and provided paid work at a minimum of Living Wage rate to 14 part-time and full-time workers.

6.0 The Role of South Yorkshire Local Authorities, the Mayoral Combined Authority & Anchor Institutions in Food System Transformation

6.1 Supporting National Aims

Based on the evidence presented here in this report, we believe that investment into local food systems can play a significant role in helping South Yorkshire achieve the missions outlined in the UK's Levelling Up White Paper. Transforming our local food systems can directly impact five of the twelve missions the report outlines:

(Mission 1): By 2030, pay, employment and productivity will have risen in every area of the UK, with each containing a globally competitive city, with the gap between the top performing and other areas closing.⁶³

(Mission 6): By 2030, the number of people successfully completing high-quality skills training will have significantly increased in every area of the UK. In England, this will lead to 200,000 more people successfully completing high-quality skills training annually, driven by 80,000 more people completing courses in the lowest skilled areas.⁶⁴

(Mission 7): By 2030, the gap in Healthy Life Expectancy (HLE) between local areas where it is highest and lowest will have narrowed, and by 2035 HLE will rise by 5 years.⁶⁵

⁶³ <https://www.local.gov.uk/parliament/briefings-and-responses/levelling-white-paper-lga-briefing#12-missions> See chapter 3.2.1 (p. 160)

⁶⁴ Ibid. See chapter 3.3.2 (p. 193)

⁶⁵ Ibid. See chapter 3.3.3 (p. 200)

(Mission 8): By 2030, well-being will have improved in every area of the UK, with the gap between top performing and other areas closing.⁶⁶

(Mission 9): By 2030, pride in place, such as people's satisfaction with their town centre and engagement in local culture and community, will have risen in every area of the UK, with the gap between the top performing and other areas closing.⁶⁷

In addition, the environmental benefits associated with local food can play a significant role in achieving the Government's legal commitment to reduce the UK's carbon emissions to net-zero by 2050 (including SCR's target to achieve net-zero by 2041), and their pledge to ensure that 30% of our land is protected for nature by 2030.

6.2 South Yorkshire Objectives

The South Yorkshire region, through its Progressive Procurement Partnership, has already begun to undertake valuable steps that can help facilitate the inclusion of local food. The partnership is driven by a "focus on encouraging local spend (Sheffield £) on goods and services and embedding wider value in procurement protocols."⁶⁸ In order to achieve these objectives, the partnership centres on:

- **Developing a shared framework:** adoption of a consistent framework which establishes a shared procurement protocol to capture 'value' and maximise social and economic benefit
- **Engaging with local businesses:** clearer, more consistent and where possible city wide guidance for terms with local suppliers
- **More effective, targeted and collective engagement with key local business sectors**
- **Collaboration:** more collaboration across partner organisations to bring mutual benefit in terms of cost, effectiveness and wider organisational aims

A number of anchor institutions within Sheffield have already gained accreditation through practices directly related to their food procurement strategy, including: the Sheffield Teaching Hospitals NHS Foundation Trust; University of Sheffield; Sheffield Hallam University and a number of schools linked with the Sheffield Schools Catering Contract. School catering standards are also being bolstered by the Eat Smart Sheffield programme in association with Food for Life. The programme aims to help schools work towards food accreditation standards, whilst actively working with local catering providers to improve the school meal offer, increase school meal take-up and boost integration between the catering services, schools, pupils and parents.

⁶⁶ Ibid. See chapter 3 (p. 159)

⁶⁷ Ibid. See chapter 3.4.1 (p. 207)

⁶⁸ <https://www.sheffieldcitypartnership.org/meetings/2018/5/18/may-board-meeting>



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Despite these important early steps, the value of local food systems remains largely absent from much of the Sheffield City Region's future ambitions, even considering its correlation with the renewed Ethical Procurement Policy. We believe that in spite of this absence, the evidence in this report demonstrates that transforming local food systems can support South Yorkshire both in its "focus on growth, inclusion and stability," as outlined in the Strategic Economic Plan 2021-2041,⁶⁹ and its vision to become "stronger, greener, fairer," as outlined in the Sheffield Renewal Plan.⁷⁰

As such, the following section presents a series of policy recommendations which, through an improved engagement with local food, can help transform South Yorkshire into a region where its vision extends beyond its words and into reality.

⁶⁹ [https://southyorkshire-ca.gov.uk/getmedia/4256c890-d568-42c8-8aa5-c8232a5d1bfd/SCR_SEP_Full_Draft_Jan_21-\(accessible\).pdf](https://southyorkshire-ca.gov.uk/getmedia/4256c890-d568-42c8-8aa5-c8232a5d1bfd/SCR_SEP_Full_Draft_Jan_21-(accessible).pdf)

⁷⁰ <https://southyorkshire-ca.gov.uk/getmedia/bf2c27b2-a5c7-4ac5-ac64-b4f8798df095/Sheffield-City-Region-Renewal-Action-Plan-Document-Final.pdf>

7.0 Policy Recommendations

Policy lever 1 – Council to adopt/increase share of spend on locally sourced food

Local authorities typically procure primary school meals, community meals and food for leisure centres, local authority-owned care homes and local authority staff canteens and events.

Although we have seen welcome progress in school catering contracts, there remains a significant opportunity for local food to make a difference across the full spectrum of organisations where procurement is managed by the local authorities.

Sheffield's Ethical Procurement Policy⁷¹ currently mandates that one in three quotes for tender are submitted by a Sheffield supplier. Local authorities should employ a framework that both supports and encourages local food suppliers to submit a collaborative quote (where necessary) – allowing for a variety of local suppliers to work together and become more competitive with external suppliers.

The local authorities should also consider seasonal contracts across their full range of procurement responsibilities. This will allow business opportunities for a range of local producers and suppliers – dependent on the season and their product – leading to local multiplier effects.

Policy lever 2 – Other public sector bodies to adopt/increase share of spend on locally sourced food

NHS Trusts are responsible for procuring hospital food, both for patients and for staff & visitor restaurants. The NHS Standard Contract 2020/21 requires all NHS trusts to develop and implement a food and drink strategy setting out how it will ensure that retail outlets, vending machines, catering provision and facilities offer access to healthy eating and drinking options 24 hours a day. Universities can also develop their own policies.

Whilst we have seen commendable practices already set in place across a number of public sector bodies, there remains room for improvement. The NHS's More Sustainable Procurement asserts that "foods in season contain the nutrients, minerals and trace elements that our bodies need at particular times of the year." Public sector bodies should adopt a strategy to include a minimum spend on local, seasonal products that support the health and well-being of our communities.

⁷¹ <https://democracy.sheffield.gov.uk/documents/s30288/Ethical%20Procurement%20Policy.pdf>

Policy lever 3 – Hospital food CQUIN

Health and Wellbeing Boards can recommend to Clinical Commissioning Groups (CCGs) and NHS Trusts that they take up the hospital food Commissioning for Quality and Innovation (CQUIN). The CQUIN framework allows CCGs to make hospitals' annual income conditional on achieving locally agreed goals to improve quality, among which is improving hospital food (CQUIN 1b 'Healthy food for NHS staff, visitors and patients').⁷²

Policy lever 4 – Dynamic Procurement

Following the successful pilot of a Dynamic Food Procurement strategy in Somerset, authorities should consider a proactive implementation of Dynamic Food Procurement systems in the South Yorkshire region.

The National Advisory Board for Dynamic Food Procurement aims to divert over 33% of UK public sector food and drink spend to fresh, local produce from sustainable SME producers by 2025. Early adoption of this system will accelerate the South Yorkshire region towards its vision of "stronger, greener, fairer," whilst helping to combat the negative impacts the current food system outlined in this report.

Policy lever 5 – Reduction in meat and dairy products

The evidence presented in this report has demonstrated the negative and unsustainable effects of the meat and dairy industry. Authorities and anchor institutions can reduce their spend on meat and dairy products, steering towards more environmentally sustainable alternatives. Where possible, authorities and anchor institutions should seek to purchase British meat and dairy products, which are typically produced to a higher standard, and carry a lower carbon footprint than imported goods.

Policy lever 6 – Supporting local food partnerships

Authorities can support the ShefFood partnership to carry out an assessment of local productivity capacity and the benefits that can be secured through investment in it. Addressing local biodiversity objectives, local economy diversification, resilience in terms of food security. This could include a target for a percentage of farmland under agro-ecological production e.g. organic or nature-friendly certified, pasture-fed accredited and agroforestry.

⁷² <https://landusekn.ca/resource/good-policy-good-food-toolbox-local-authority-food-policy-levers>

Policy lever 7 – Data

Compile, manage and analyse data in order to understand and manage local food systems where government already has a role in the food sector - e.g. farm payment schemes and advisory, large public procurers (schools, hospitals etc.), healthcare, social care, education insight (e.g. healthy start vouchers, free school meals), Food Standards Agency, chambers of commerce. This will facilitate better connection of local demand and (sustainable) supply, informing investment in local food and dealing with shocks and crises.

Policy lever 8 – Accreditation

Authorities should seek to encourage and incentivise working towards national accreditation schemes such as Food for Life Served Here. This should not be limited to public sector organisations, but extend to large private caterers, as well as restaurants and other small-scale catering outlets.

8.0 References

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