



**TRANSFORMING
UK FOOD
SYSTEMS**
Strategic Priorities Fund



Funded Projects

Call 1: Transforming the UK Food System for
Healthy People and a Healthy Environment
SPF Programme



Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme



Projects funded under Call 1

Four interdisciplinary research projects have received funding through the first call of the [Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme](#).

- [Healthy soil, Healthy food, Healthy people \(H3\)](#)
- [Transformations to Regenerative Food Systems](#)
- [Co-production of healthy, sustainable food systems for disadvantaged communities](#)
- [Transforming Urban Food Systems for Planetary and Population Health \(The Mandala Consortium\)](#)

These projects are multi-centre, interdisciplinary and bring together the different parts of the food system. They all include collaboration with a cross-section of stakeholders (government, business and civil society) to shape the research and help drive impact.

These consortia along with the [Centre for Doctoral Training](#), and projects which will be funded in the second funding call, will build a critical mass of researchers and stakeholders and will enable an integrated approach to addressing the objectives of this programme.

The Programme Aims to:

- Transform the UK food system by placing healthy people and a healthy natural environment at its centre
- Determine what we should eat, produce and manufacture in the UK and import, for health and sustainability
- Bring together researchers, government, business, and civil society to determine what interventions might be required
- Co-produce research across disciplines and stakeholders to provide evidence for coherent policymaking
- Train the next generation of food system thinkers

“Never before has the role that the food system plays in both environmental and human health been so centre-stage.

I am really excited by the ambitious and transformative projects we have selected for funding – every single person in the UK could benefit from this research and we will ensure that the best evidence is generated to answer and offer solutions to the questions which matter and the decisions which need to be made in Transforming the UK food system.”

Professor Guy Poppy, Programme Director of the Transforming the UK Food Systems SPF Programme



Healthy soil, Healthy food, Healthy people (H3)

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

Bringing together world-class researchers from Sheffield, Leeds, Bristol, Cambridge and City Universities, the proposed research seeks to transform the UK food system 'from the ground up' via an integrated programme of interdisciplinary research on 'Healthy soil, Healthy food and Healthy people' (H3). The H3 Consortium addresses the links between food production and consumption and takes a whole systems approach to identify workable paths towards a transformed UK food system, delivered via a series of interventions: on farm, in food manufacturing, distribution and retail, and in terms of the health implications and inequalities associated with food consumption in UK homes and communities.

The proposed research addresses a range of UK government policy drivers from diet-related ill health to the reduction of greenhouse gas emissions, from biodiversity to soil health and water quality, rebuilding trust in the food system, promoting clean growth and supporting the translation of scientific research and new technologies for the benefit of the UK economy and society.

Our approach is thoroughly interdisciplinary, combining world-class soil and plant scientists, health researchers, economists and social scientists. The research team have many years' experience of working together, leading interdisciplinary research centres, co-supervising PhD students and collaborating on numerous research projects. We take an integrated approach to the agri-food system, recognizing its inherent complexity and addressing the governance challenges that arise from the rapidly changing regulatory landscape.

Our proposed research involves six interconnected work-packages. The first advances novel growing technologies via fundamental research into agricultural practices that have the potential to transform the quality of food we grow while minimising its environmental impact. The second aims to combine hydroponic and conventional soil-based agriculture, creating a linked network of hybrid demonstrator farms in peri-urban areas to encourage improvements in dietary health and environmental sustainability. The third extends these ideas to the landscape scale, evaluating the benefits of regenerative agriculture in terms of reduced fertiliser and pesticide use and increased food quality. The fourth addresses the key public health challenges of micro-nutrient deficiency through the application of state of the art methods of biofortification, enhancing the nutritional value of foods that are already part of established UK diets. The fifth seeks to increase the consumption of fibre with its attendant health and sustainability benefits, based on lessons learnt from the Danish wholegrain partnership; while the sixth seeks to increase food system resilience to economic, health and environmental shocks through collaborative research with retailers and consumers. Three cross-cutting themes ensure system-wide integration across the work-packages. The first focuses on the application of integrative methods such as LCA and scenario-building approaches to assess the environmental, social and economic impact of different interventions and policy options. The second focuses on issues of consumer demand, public acceptability and affordability; while the third ensures that a wide range of stakeholders from government, business and civil society are involved throughout the programme, with a strong emphasis on knowledge exchange and impact within and beyond the five-year funding period.

The H3 Consortium is led by Professors Peter Jackson and Duncan Cameron who direct the Institute for Sustainable Food at the University of Sheffield.



Transformations to Regenerative Food Systems

Professor Bob Doherty, University of York

Our vision is a transformation of food systems (FS) across the UK towards being 'regenerative'. Our current FS are responsible for major social and environmental impacts, such as poor diets, ill health and major environmental degradation and threaten the long-term wellbeing of people and the planet. Because many aspects of ecological and human health have already passed critical thresholds, new regenerative approaches are needed that go beyond just reducing harm to sustainable levels and instead develop FS that have dynamics that 'spiral up' social, economic and environmental benefit, and for all. This research therefore aims to answer two main questions: (1) What do regenerative systems look like? And (2) How can transformations be enabled so we can get to regenerative FS? To answer these questions, we will work with diverse stakeholders to change the Yorkshire food system and use the learning to inform change efforts in other parts of the UK and beyond. Our work will focus on shifting trajectories towards regenerative dynamics in three inter-related systems of: healthy eating for young children, hybrid food economies and farming. This will enable us to consider not just the food chain (farming to fork) but also its outcomes, such as food security (availability, access and utilisation of food), quality, safety and social welfare, as well as how these aspects interact with social, economic and environmental drivers.

We will use novel approaches that combine different processes of data collection and 'learning by doing' from applying different interventions, while also creatively developing solutions and new ways of thinking about FS. The work will also use innovative thinking that will enable us to keep focus on stimulating transformational kinds of change. This will be delivered using a 'co-creation' approach, with researchers and other professionals working together to bring about change. Our research has already been developed with a range of FS stakeholders from farming, industry, civil society and national and regional government. This process has resulted in a new anchor institutions platform and a 'Leaders for Change' group of young people, both of which will help use drive system change.

Our work will have six main outcomes for Yorkshire and beyond: (1) New visions of regenerative FS; (2) Scalable innovative interventions (e.g. new models of food procurement and environmentally sustainable menus for schools and early years settings; educational resources/activities linking healthy diet and climate change such as remote/interactive farming platform for schools; hybrid business models like food hubs, community urban vertical farms; a UK wide model to predict impacts of scaling regenerative farming, linking of regenerative farming produce to schools and anchor institutions procurement); (3) New policies and governance mechanisms (such as the Food Systems Council for Yorkshire) to ensure impact well beyond the programme; (4) New metrics and platform to help guide and drive transformation (e.g. new data for National Food School monitoring; and an open-source codebase with quantitative systems models to co-create a new metrics dashboard for FS transformation); (5) New narratives for different stakeholders to support cultural change; and (6) Bring together different stakeholders, information and new ways of thinking to ensure long-term transformational intent.

Overall, our cutting-edge science that uses co-creation and action-oriented methods will actively shift trajectories towards new kinds of regenerative FS in Yorkshire. It will also produce cutting-edge science about how to achieve transformation of FS towards the new concepts of regenerative futures. Through the influential researchers and partners involved, this learning will also be actively fed into UK policy and international endeavours, ensuring the programme has wide-reaching and long-lasting impact.



Co-production of healthy, sustainable food systems for disadvantaged communities

Professor Carol Wagstaff, University of Reading

Our vision is to provide citizens of culturally-diverse disadvantaged communities with choice and agency over the food they consume, by co-developing new products, new supply chains and new policy frameworks that deliver an affordable, attractive, healthy and sustainable diet.

Disadvantaged communities are defined as families and individuals who are at risk of food and housing insecurity, often culturally diverse, and whom experience multiple challenges such as financial, mental health and physical health. The proposed programme of research integrates some of the largest food businesses in the country, together with distribution and retail partners that reach into the heart of disadvantaged communities across the UK. Working alongside government departments and civil organisations, the team will develop a resilient, sustainable and adaptable food system for populations from different regions, age groups and socio-cultural backgrounds. At the end of the project the consortium will have developed methods for innovating food products, food supply chains and food/agricultural policies that are inclusive and robust. When implemented at national scale these will deliver the behavioural, health and economic benefits that a food system should provide for citizens, businesses and the environment.

A baseline of 22% of people live in food poverty in the UK, often reliant on solutions outside of mainstream food systems, including food banks. This doesn't enable people to plan or choose their diet, or to improve their food security on a long term basis. Previous attempts at transforming the food-health system to become more equitable, sustainable and integrated have had limited impact as they fail to engage disadvantaged communities in the research process and the policy design, leading to a failure to impart knowledge sharing or social innovation. The disconnect between households, communities and national supply and production networks presents one of the greatest challenges to developing a socially just, healthier, and sustainable food system for everyone.

This project will identify and implement the innovations and new configurations of the food system that are necessary to deliver improved nutritional public health and wellbeing for citizens from disadvantaged communities with enhanced environmental sustainability. The team will do this using co-design, co-production and participatory methods that enable major food businesses and community owned enterprises to engage with each other, and with the citizens who consume food. In the first part of the project a picture of the national food landscape in disadvantaged communities from across the UK will be built, and the impact of the current food system on environmental sustainability will be analysed. Investigation of current corporate, social and government policy frameworks that guide food and agriculture in the UK and across Europe will be evaluated to highlight positive directions for the future. Together, in phase 2, communities and businesses will codevelop new supply chains, new or reformulated exemplar food products and new policy frameworks. In phase 3, these innovations will be evaluated, adjusted and improved. The impact of scaling these innovations to basket level and national level will be evaluated, quantifying the potential impact of nationwide changes on the environment and health.

By the end of the project we will have established effective methods for co-creation of policy, products and supply chains that can be implemented at a national level. As a result, every citizen will have the potential to make decisions about their food, and will have access to a diet that is affordable, attractive, healthy and environmentally sustainable.



Transforming Urban Food Systems for Planetary and Population Health (The Mandala Consortium)

Professor Martin White, University of Cambridge

In this proposal we set out our vision for five years of research that will help bring about important changes in the food system. The changes aim to make food healthier, more affordable, less harmful to the environment, but still acceptable to businesses. The work will involve many different types of researcher, who do not usually work together, as well as commercial companies, a city council, and civil society organisations. Our findings will influence local and national governments, food companies and other organisations that play important roles in bringing healthy, affordable and sustainable food to communities.

The research will focus on Birmingham, a large English city with a diverse population. The work will be divided into six work packages that will be closely connected. The research team will work together on each of the work packages and share their findings regularly. This will help to ensure that our work achieves effective food system change in Birmingham and can be used by other places trying to make similar changes.

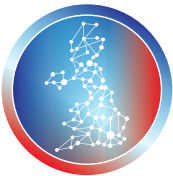
In the first work package, we will work with communities and people from the local council and food businesses to create a map of the current food system. This will show the different types of businesses and other organisations involved, what they do and how they work together to deliver food to communities. We will explore how money and food flows through the system. We will have meetings with community members and people from the relevant organisations to ensure we properly understand the whole of the food system.

We will use our 'system map' to work out what information we can use to measure how the food system works. Where possible, we use data that is already collected that we can use creatively and efficiently. We will collect new data when necessary using new methods. We will look for ways to bring different types of data together so that it can be used to measure changes in the food system over time and in response to new policies or programmes. We will analyse the information to see what it tells us about how the food systems works.

Once we have a map of the food system, and an understanding of how it works, we will help Birmingham City Council develop plans to change the food system. The aim of changes will be to make food more healthy, more affordable and better for the environment without negatively affecting businesses. The plans will include actions that are practical, affordable, likely to achieve our aims and compatible with other national and local policies. Possible actions might include changing business rates to encourage sale of healthier foods, or developing online systems to help local businesses find and use more locally grown food.

The next stage of the research will be to implement the plans and explore which of the actions work best to achieve our aims - both singly and in combination. Because the programme of work will only run for five years, we will not be able to study long term impacts of actions. Instead we will build a computer model to predict how the actions that are tested in real life are likely to affect health, the environment, the economy and food business in the future. The model will also provide a useful tool for local councils and food businesses in other places to explore how different actions might impact differently on health, the environment, the economy and businesses. The results will help make plans for changing the food system in other cities and regions.

Throughout the five years, we will talk regularly to other scientists and people in food businesses, the council and the community. We will share our thinking and findings and seek their views on how our work is evolving. We will develop a number of attractive ways to share this information, including films and blogs, newspaper articles and scientific papers.



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About the 'Transforming the UK Food System for Healthy People and a Healthy Environment' Programme

The £47.5M 'Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme' is delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, PHE, Innovate UK and FSA. It aims to fundamentally transform the UK food system by placing healthy people and a healthy natural environment at its centre, addressing questions around what we should eat, produce and manufacture and what we should import, taking into account the complex interactions between health, environment and socioeconomic factors. By co-designing research and training across disciplines and stakeholders, and joining up healthy and accessible consumption with sustainable food production and supply, this Programme will deliver coherent evidence to enable concerted action from policy, business and civil society.

