

Building the Food System Transformation Solutions Bank

Transforming the UK Food System Programme Synergy Fund Project

Final Report, August 2024

Introduction

The Food System Transformation Solution Bank project was funded by a Synergy grant¹ from the Transforming the UK Food System (TUKFS) Programme, and ran from October 2023 to February 2024. The project was led by Dr Kelly Parsons, University of Cambridge, and Dr Andrew Bladon, University of Reading². The following report was prepared by Kelly Parsons and Andrew Bladon, with input from Katy Cooper³.

Project summary

The aim of the project was to develop the Food Systems Transformation Solution Bank (TSB), a database of ‘solutions’⁴ for transforming food systems, populated through a range of sources (e.g. reports, academic literature, policy databases) which can provide long-lists of possible actions to target particular food system goals. The intention was to make the solutions within the TSB searchable, according to different categories which are useful to researchers, policymakers and others.

Project rationale and further background

There is a proliferation of research, policy, and practice activity directed towards intervening in food systems. However, the current approach to identifying and understanding possible interventions which may provide solutions to these problems is fragmented and inefficient (Deconinck et al. 2021; Parsons & Barling 2021; Parsons et al. 2022). Many sources exist, offering a rich source of information and ideas on potential solutions, but these are fragmented across organisations, and tend to focus on specific food system activities or outcomes (Parsons & Barling 2021). This presents a barrier to assessing the full range of possibilities for shaping the system and can lead to stakeholders being unaware of over 40% of available options (Walsh et al. 2015). Solution scanning enables stakeholders to consider a wider range of possible actions before making decisions and provides a critical first step towards evidence-based decision-making, by creating a list of interventions on which evidence can be searched for and synthesised (Sutherland et al. 2021). The rationale for the TSB is detailed in Figure 1.

¹ Synergy grants are provided to support research projects which have synergistic benefits for, and inputs from, multiple investments in the TUKFS Programme:
<https://ukfoodsystems.ukri.org/2022/08/18/synergy-fund-and-rapid-response-fund/>

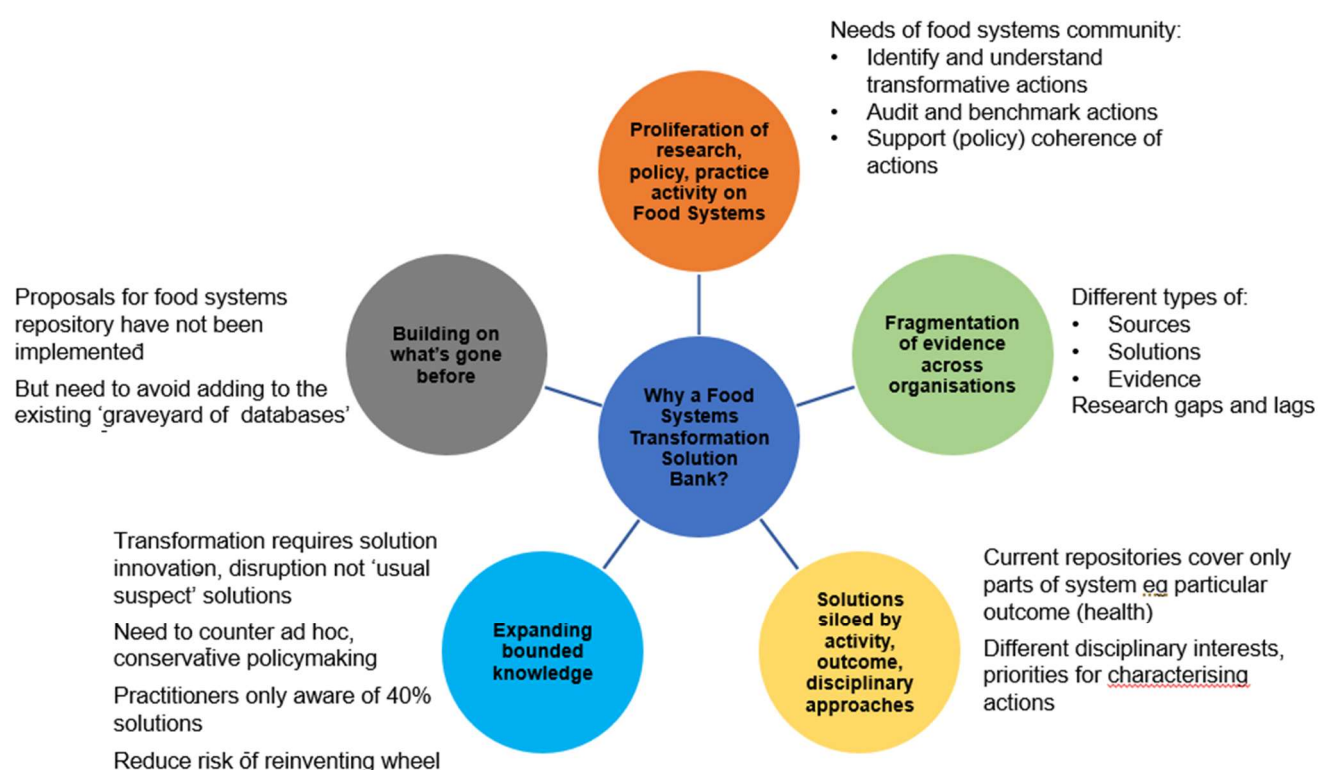
² Previously University of Cambridge.

³ Katy Cooper is an independent consultant, who provided editorial services during the workshops.
<https://www.katycooper.co.uk/consultancy>

⁴ The term solutions is used as a catch-all to include: Actions, Levers, Interventions, Measures, Tools, Instruments, Proposals, Recommendations.

For food system transformation, there are likely to be a vast array of possible solutions, at different scales, and in different parts of the system, making comparison and synthesis challenging (Parsons & Barling 2021). Moreover, any attempt to simply list possible solutions, with no indexation or categorisation, can rapidly become overwhelming. However, with so many actors and stakeholders in food systems research, there is a multitude of frameworks for thinking about how, where and why solutions can act within the system (Parsons & Barling 2021). A synthesis drawn from one area of research, therefore, may not be readily transferable to other projects, limiting its widespread use. In addition, by bringing together expertise and solutions from different parts of the system, there is a greater opportunity to generate ideas for more innovative or disruptive solutions – for example by combining solutions from different areas, or applying an existing solution to a new scenario.

Figure 1: Rationale for creation of a Food Systems Transformation Solution Bank



Source: Authors

The TSB aims to address the problems outlined by harvesting and categorising fragmented solutions into a single database covering a range of food system activities and outcomes. It builds on a 'rapid solution scan' conducted for the Mandala programme, the call 1 consortium funded by TUKFS. The Mandala RSS is, in turn, an

extension of a database created by Parsons and Barling, for a project for TUKFS on mapping levers for food system transformation⁵.

It became apparent while developing the Mandala RSS and discussing it with researchers within the Programme, that many other TUKFS projects were looking for, analysing, or implementing solutions for food systems transformation, and that a database would have wide applicability across the Programme and foster links between investments. This, along with the role of the TSB in building capacity for understanding the levers for system change, made it a good fit for Synergy funding.

Project Collaborators

We engaged a wide range of collaborators, with the aim of gathering interdisciplinary experience on how best to create the database, to identify the best sources and most useful classifications, and to avoid duplication. These included representatives of TUKFS projects with an active focus on food system solutions, and other experts on food system solutions and creating repositories, from academia and civil society. Our collaborators were:

From the TUKFS Programme

- Tom Ball, University of Cambridge (Mandala)
- Martin White, University of Cambridge (Mandala)
- Alexia Sawyer, University of Cambridge (Mandala)
- Alexandra Johnstone, University of Aberdeen (FIO Food)
- David Barling, University of Hertfordshire (Beanmeals)
- Jonathan Beacham, University of Bristol (H3)
- David Evans, University of Bristol (H3)
- Peter Jackson, University of Sheffield (H3)
- Christian Reynolds, City University of London (H3)
- Rebecca Wells, City University of London (Fix Our Food)
- Tom MacMillan, Royal Agricultural University (Cultured Meat)
- John Dooley, Royal Agricultural University (Cultured Meat)

⁵ Parsons K & Barling D (2021) Food Systems Transformation. What is in the policy toolbox? Report for the Transforming UK Food Systems Programme.

Non-TUKFS Experts

- Ana María Moragues Faus, University of Barcelona⁶
- Jess Halliday, RUAF⁷
- Sofia Parente, Sustain⁸

Along with these formal collaborators were many participants from across the TUKFS Programme, who attended workshops for the project, and engaged in discussions around the TSB outside of those workshops.

Aims

The aims of the TSB project were to:

1. Bring together collaborators from across the TUKFS Programme, and beyond, to ensure widespread suitability and usefulness to a broad range of different researchers and other non-academic stakeholders
2. Co-produce an accessible, categorised Transformation Solution Bank by drawing from sources harvested from the group
3. Explore the potential to make this a permanent, updated resource for identifying solutions for transforming food systems
4. Catalyse future projects towards development of a world-class evidence repository for ‘what works’ in food system transformation (see box below for more on this).

⁶ Advisory role and link to urban food networks in Spain, Europe

⁷ Advisory role, including on potential to collaborate with GAIN on the existing platform Food Action Cities

⁸ Advisory, co-production role to ensure Solutions Bank is informed by Sustainable Food Places, Good Food Local and other projects which benchmark interventions

Towards a ‘What Works’-style evidence-informed approach for food systems

The TSB is a collection of ‘raw’ data, which has not been synthesized, de-duplicated, and solutions included have not been extensively analysed for their effectiveness or viability. It is not a fully-fledged repository for available evidence on food systems solutions. A repository of that kind, akin to a ‘What Works Centre’, where different solutions can be explored in depth with full details of the evidence of their effectiveness, remains some way off. The TSB aims to catalyse efforts towards creating a fully-fledged repository, by establishing the foundations; harvesting and categorising fragmented solutions into a single database covering a wide range of food system activities and outcomes, holistically. This will enable further synthesis and evidence gathering to be conducted on the bank of solutions. That said, there are a limited number of solutions where evidence is available, and there are problematic time lags in evidence production. Only focusing on solutions where full evaluation evidence is available, therefore, risks a menu of only the ‘usual suspect’ type of actions. For food system *transformation*, a more innovative, bold approach is needed.

There is growing interest in how to improve food systems evidence use in policy and practice. Evidence of ‘what works’ from the menu of possible options is often limited¹. Evaluations of effectiveness may be limited to short-term outcomes only, or on health outcomes but not environmental or economic outcomes¹. The demand for, and practical implications of, taking a ‘what works’ approach¹ to food systems in general, and dietary shift in particular, were explored in a project [<https://www.food.gov.uk/research/changing-diets/promoting-healthy-and-sustainable-diets-how-to-effectively-generate-and-translate-evidence>] conducted by researchers now working on TSB collaborator projects Fix Our Food, Mandala and BeanMeals. Two ‘What Works Centres’ for food were recommended in the National Food Strategy Independent Review [<https://www.nationalfoodstrategy.org>] to address the issue of evidence use in food systems, but there has been little progress to date.

Project Activities

Two workshops were held, one at the outset of the project and one towards the end. The discussions in both workshops were engaged, informative and lively, demonstrating the breadth of relevance and interest of the project to different areas and organisations within the food system. The workshops were held under the Chatham House Rule. In between workshops 1 and 2, solutions were harvested and coded to create the database.

Workshop 1

The first workshop was held on 9 October 2023, bringing together 30 participants (see Appendices for details) from 23 different academic and policy organisations from across the food system. The workshop had two aims: to develop a list of classification schemes that could be used in the TSB to tag solutions from across the food system, and to identify sources of food systems solutions that could be assessed for inclusion in the TSB.

Participants undertook three tasks to identify and test possible categorisations, using an online Miro board to collate ideas. First, in breakout groups, participants brainstormed ideas for categorisation: i.e. different ways in which solutions can be divided up (outcomes, impact, feasibility, actors etc.) (a summary of the discussion of potential categories is provided in the Appendix). Second, the suggested categories were collated into groups of similar/overlapping categories. This resulted in a list of 16 categories, which were then voted on to identify the ‘top 10’. These 10 categories were ‘stress-tested’ by the breakout groups, applying the categories to different example solutions (details in Appendix).

Five categories – which combined the highest scoring from the voting, and the most feasible to apply from the stress-testing – were then selected to be taken forward in developing the database. These were:

- 1) who delivers (instigates) the solution?
- 2) who is impacted by the solution?
- 3) the type of solution
- 4) the intended outcomes of the solution
- 5) the level/scale at which the solution could be applied.

Each category was given four to ten sub-levels which the solution could be tagged by. For example, the category on who is impacted by the solution is tagged according to whether it would be implemented by the private sector, public sector, civil society, or another group.

Participants were also given the opportunity to provide details of the sources of solutions they currently used. These were collected on the Miro board (see Appendix for the raw list of sources).

Data Collection and Coding

Following the first workshop, the project research assistants undertook several months of checking sources, harvesting solutions, and coding those solutions with the agreed categories.

Sources were investigated for their relevance and then, where possible or practical, were harvested for solutions. Some sources were not possible to harvest from, due to their sheer size or format, or because they did not have any obvious solutions which could be

identified (a list of sources and notes on extraction is included in the TSB database in a separate sheet).

To aid coding of the solutions, a guidance document was created to lay out the different categories, and to provide explanations of what each category was about, and more granular sub-categories which might fall under the high-level category. For example, for the category on who is impacted by the solution, a detailed list of actors/organisation types which fall under the headings of private sector, public sector, civil society, or another group, was created⁹.

Workshop 2

A second workshop was held on 31 January 2024 and was attended by 20 people, most of whom had attended the first workshop, which provided continuity in the discussion. The aim of the second workshop was to present the TSB in its current form ('V1'), and to accomplish four tasks:

- 1) Identify current applications of the TSB V1.
- 2) Discuss the best format for publication of the TSB V1.
- 3) Suggest potential options for the development of the TSB.
- 4) Discuss how the TSB could be funded in the future.

The project team presented the progress made in populating and categorising the TSB to date. This was followed by a session to identify applications of the TSB, discussing options for how best it can be put into the public domain, and developing ideas for its expansion/evolution and possible future funding streams.

A full summary of the discussions in workshop 2 is provided in the Appendix.

Participants were asked to consider how the TSB could be used in their own organisations and other possible uses for it in its current form. Organisation-specific suggestions included:

- Fix Our Food would use the TSB to compare and contrast Fix Our Food's own solutions with similar ideas elsewhere.
- The TUKFS Centre for Doctoral Training (CDT) could use the TSB as a teaching tool and source of solutions – and students are already planning on using it (see project impact below).

Suggestions were also made on other ways to use the TSB, which included to:

- Source case studies that go beyond the 'usual suspects' of examples. These case studies could also be of interest to a wider audience in non-communicable disease

⁹ This was an extension of an existing taxonomy by Parsons and Barling (2021) developed for TUKFS, and a map of food system actors developed by Parsons et al (2022).

prevention and could feed into, for example, the WHO/World Bank 2nd Global Dialogue on Sustainable Financing for NCDs, to be held in June 2024.

- Communicate the potential range of actions to those who have a burgeoning interest in food systems (i.e. giving a flavour of what is available).
- Provide a useful guide to those interested in specifics (such as focusing on food waste, plant-based diets etc.).
- Enable comparison across geographies – for example, how local solutions differ between countries.
- Identify what has not been successful in the past or, alternatively, ideas for which there is currently limited evidence but which would be good to test further.
- Identify potential new partners and funders: ‘a database of people who have done this and who we might like to work with’.

Participants were asked to consider the most useful format in which to publish the TSB V1, and what guidance would be appropriate to include with it. Three possibilities for publication were initially suggested, before the breakout discussions, namely:

- 1) Publication in data-paper style, with the main article describing methods and providing a high-level overview, with the TSB as supplementary material.
- 2) Hosting the TSB as a file on a website (perhaps as a downloadable file), along with a summary and user guide.
- 3) Developing a more user-friendly front end to the database and place it on a dedicated website.

There was general agreement that an associated peer-reviewed article would provide academic weight to the TSB. However, the TSB itself would benefit from being hosted on a different website to give it more flexibility over time, rather than being a static appendix to a paper. The message was very clear that this must not be restricted to an academic audience: wherever the TSB is published, it should be accessible by and appropriately targeted at potential users, with appropriate communications at launch and sustained over time. Any platform on which it is presented will need to be tested for usability.

Useful further outputs to help to reach the appropriate audience would be a step-by-step how-to guide and a video, both explaining the rationale for the TSB and how to use it. The video need not be complex but would be likely to be welcomed by users.

Other ideas for development included:

- Offering a way users could connect through the database, to enable those starting out to accelerate the initial process and ask for advice? This would require gathering searchable information on who is currently working on specific kinds of solution, coupled with some sort of chat function or a large-language model through which users can type what they want to achieve and be directed to particular parts of the database.

- Linking each solution to a Sustainable Development Goal target to help to link local solutions to global frameworks.
- Asking everyone in the TUKFS programme to populate the TSB with their own evidence –an approach which may be of interest to TUKFS as a way to demonstrate what each project/organisation has contributed to the programme.

Ideas for securing funding to develop the TSB further included:

- QR Policy Support funding at different institutions for policy-relevant projects;
- Global Alliance on the Future of Food (a consortium of charitable funds)¹⁰;
- AFN Network+ (Agrifood for Net Zero)¹¹;
- Belmont Forum, which has a current international call on climate, environment and health (NERC is involved).

Project Outputs

Outputs to date include:

- The Food System Transformation Solution Bank, V1: a database of approximately 3,500 food system solutions, drawn from around 250 different sources, with each solution tagged according to options within five orthogonal classification schemes;
- A taxonomy and accompanying guidance document on coding food systems activities, outcomes, and other dimensions;
- A short talk and poster presentation at the TUKFS annual meeting in Reading.

Planned additional outputs include:

- An accessible web interface version of the database, currently being developed by the University of Cambridge MRC Epidemiology Unit's Data Tools Team, to be published online.
- A scientific paper outlining the rationale for, methods behind, and content of the TSB, to be published in an Open Access journal with which the University of Cambridge already has an existing Read & Publish agreement.

Project Impact and Future Directions

This project has brought together a range of researchers, from across the TUKFS programme and beyond. The relevance to other TUKFS investments is well evidenced by the number of collaborators, level of workshop attendance, and ideas for application and

¹⁰ Global Alliance on the Future of Food <https://futureoffood.org/>

¹¹ AFN Network+ <https://www.agrifood4netzero.net/>

development which the project garnered. The project has already catalysed further work, including:

- Two TUKFS CDT students conducting project ‘kernels’ at City University of London are learning to extract and tag solutions using our framework;
- The TSB will be explored as a source of solutions for analysis by students of the City St George’s Masters in Food Policy, which will contribute additional evidence reviews on selected solutions;
- A draft version of the TSB was requested by the Food & Agriculture Organisation’s High-Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) to inform its report on ways to achieve food security through urban and peri-urban food systems;
- The TSB has been included in several funding bids: if funded the projects will enable further coding and analysis to be conducted on the database.

We plan to continue the strategy of building out the TSB V1 through indirect funding, adding solutions and – potentially – additional categorisations, by incorporating it non-TSB focused funding bids. At the same time, we are exploring a larger funding bid focused on evolving the TSB as a resource for food systems transformation.

Acknowledgements

We are grateful for the dedication shown by our research assistants, Julie Carter and Struan Tait, in harvesting and coding solutions. Many thanks to Mandala PI Martin White, for supporting the TSB project, including with in-kind resource from the MRC Epidemiology Unit’s data team. Finally, we very much appreciate the time invested and enthusiasm shown by our project collaborators.

References

- Deconinck K, Giner C, Jackson LA & Toyama L (2021) *Overcoming evidence gaps on food systems*. OECD Food, Agriculture and Fisheries Papers, No. 163, OECD Publishing, Paris. <https://doi.org/10.1787/44ba7574-en>
- Parsons K, Headings R, Doherty B, Barling D & Heron T (2022) *Guiding Principles for translating evidence on diet shift for people in the real world. Promoting healthy and sustainable diets: How to effectively generate and translate evidence*. Report for the Food Standards Agency. <https://www.food.gov.uk/print/pdf/node/12531>
- Parsons K & Barling D (2021) *Food Systems Transformation. What is in the policy toolbox?* Report for the Transforming UK Food Systems Programme.
- Sutherland WJ, Taylor NG, Aldridge DC, Martin P, Rhodes C, Shackelford G, Beard S, Belfield H, Bladon AJ et al. (2021) A solution scan of societal options to reduce transmission and spread of respiratory viruses: SARS-CoV-2 as a case study. *Int. J. Biosaf. Biosecurity*, 3 (2): 84–90. <https://doi.org/10.1016/j.jobbb.2021.08.003>
- Walsh, J.C., Dicks, L.V. and Sutherland, W.J., 2015. The effect of scientific evidence on conservation practitioners' management decisions. *Conservation Biology*, 29(1), pp.88-98.

Appendices

Appendix 1: Participants in Workshop 1

KEY: * indicates collaborator; italics indicates facilitator

* Alexandra Johnstone, University of Aberdeen	<i>Leticija Petrovic</i> , Food Foundation
* Alexia Sawyer, University of Cambridge	Lin Fu, University of Birmingham
<i>Amy Yau</i> , London School of Hygiene & Tropical Medicine	Manik Puranik, University of Reading
* Ana María Moragues Faus, University of Barcelona	* Martin White, MRC Epidemiology Unit
Andrew Bladon, University of Reading	Monika Zurek, ECI, University of Oxford
Angela Dickinson, University of Hertfordshire	<i>Owen Nicholas</i> , University College London
Brenda Mogeni, University of Sheffield	Pan He, Cardiff University
* David Barling, University of Hertfordshire	* Peter Jackson, University of Sheffield
Gabriel Yesuf, University of Reading	Rebecca Lait, FixOurFood, University of York
Hannah Greatwood, Leeds Beckett University	Rebecca Newman, University of York
* Jess Halliday, RUAF	* Rebecca Wells, Centre for Food Policy, City University of London
Joe Livingstone, Queen's University Belfast	Rosie Tsikritzi, University of Reading
* Jonathan Beacham, University of Bristol	* Sofia Parente, Sustain
Julie Carter, University of Cambridge	<i>Struan Tait</i> , University of Cambridge
Katy Cooper, UK Working Group on NCDs (report author)	* <i>Tom Ball</i> , University of Cambridge
<i>Kelly Parsons</i> , University of Cambridge	Tom MacMillan, Royal Agricultural University
Laura Bardon, QIB	Vicki Jenneson, University of Leeds

Appendix 2: Initial discussion on categories

The top categories, as discussed in the plenary, included the need to identify which of different food system outcomes (sustainability, health, economics or equity) will be affected by the intervention. It was considered crucial to be able to categorise impact – whether economic, social or environmental – including ideally both intended and unintended consequences. Understanding different dimensions of feasibility (social, financial, acceptability etc.) was noted as important, along with the level of the intervention (local/regional/national – and where the power lies). Finally, the actors involved (state, private or civil society – or a combination), including the lead delivery actors, need to be identified. Other choices, seen as important but less crucial,

included: the part of the food system impacted by the intervention (such as production or consumer behaviour), the policy area (for example, education, planning, procurement), the geographical area, the mechanism for action (such as fiscal policy), who will pay, where responsibility lies (i.e. which actors are influenced by the intervention and have power over it – and what it means for winners/losers), how to evaluate/monitor the interventions, who makes decisions that blocks/enables the intervention, what is the existing evidence for an intervention (i.e. whether it has been tested or not), and the cost of the intervention (and on whom the cost falls – this may be borne by a sector different from that which sees the benefits).

Other suggestions included a classification that sets out whether the demands of the intervention are placed on individuals or organisations (which matters because high individual demands can widen inequalities) and a classification of whether the intervention is aimed at population level or at those at high risk. Finally, an honest assessment of feasibility (including potential barriers) would be very helpful for policymakers.

Appendix 3: Clustering of Categories

The second task required participants to cluster the suggested categorisations. Each group moved the sticky notes into clusters and named them. The Mandala team took the suggested clusterings and synthesised them to make them as representative as possible. The outcome of this process was 16 suggested categories, as follows:

- Who acts
- Who delivers
- Who is impacted
- Type of intervention or mechanism of action
- Outcomes intended
- Outcomes unintended
- Scope (targeted or systemic)
- Evidence /evaluation/monitoring
- Context – governance
- Context – geography
- Scale – local/national etc.
- Political feasibility
- Public feasibility
- Cost
- Timescale
- Demands/agency required

Appendix 4: Top Ten Categories, ranked following participant voting

Rank	Category
1	Evidence / evaluation / monitoring
=2	Who delivers?
=2	Who is impacted?
=2	Type of intervention / mechanism of action
=2	Outcomes (intended)
=2	Level / scale of intervention
7	Scope of intervention (targeted vs systemic)
=8	Cost
=8	Timescale
10	Outcomes (unintended)

Appendix 5: Suggested Sources

General sources

- General www searching
- Contact experts directly
- Academic literature – notably systematic reviews on interventions of specific type / outcome / population group (mentioned several times)
- Specific reports and websites, e.g. local authority or NGOs that run projects/programmes (e.g. Rikolto, Hivos, GAIN) (mentioned twice)
- Asking contacts and networks for examples from members (e.g. ICLEI, C40, UCLG)
- Retailer/industry insight
- Sustainable food places case studies
- Retail food sector data
- Twitter/X and social media
- Patient groups
- Online recipes

Specific sources

- Agriculture and Horticulture Census <https://www.gov.uk/agricultural-survey>
- CEH's land use <https://www.ceh.ac.uk/>
- Centre for Food Policy: Food Systems Dashboard <https://www.foodsystemsdashboard.org/> (mentioned three times)
- Consumer Data Research Centre: Priority Places for Food Index <https://www.cdrc.ac.uk/priority-places-for-food-index/> (mentioned twice)
- EnviroScore <https://www.azti.es/enviroScore/en/>
- European Joint Research Commission databases <https://www.re3data.org/repository/r3d100012593#:~:text=The%20JRC%20Data%20Catalogue%20gives,policies%20of%20the%20European%20Union>
- FAO: Global Database for City and Regional Food <https://www.fao.org/urban-food-actions/resources/resources-detail/en/c/1321132/> (mentioned twice)
- FAO: FAOLEX Database <https://www.fao.org/faolex/en/>
- FAO: Food and Agriculture Policy Decision Analysis Policy Database <https://www.fao.org/in-action/fapda/fapda-policy-database/en/#:~:text=The%20FAPDA%20policy%20database%20is%20a%20global%20and,of%20the%20policy%20objectives%20and%20more%20in-depth%20information.>
- FixOurFood: AgriFood Calculator Dashboard (participants creating this dashboard to evaluate potential impact of certain strategies)
- FixOurFood: Trialling new regenerative farming practices and collecting data from farmers
- Food Action Cities <https://foodactioncities.org/>
- Food Systems Economics Commission <https://foodsystemeconomics.org>
- Global Food Security programme (UK), *Scenarios Report: The Role of the UK Food System in Meeting Global Agreements: Potential Scenarios* www.foodsecurity.ac.uk/publications/UK-food-system-scenarios-report.pdf
- Healthy Food Policy Project Database <https://healthyfoodpolicyproject.org/>
- IGD, Driving Change reports (retail trials) <https://www.igd.com/articles/article-viewer/t/healthy-sustainable-diets-driving-change/i/30157>
- INFORMAS, Food-EPI database, best practices and reports <https://www.informas.org/food-epi/> (mentioned twice)
- Johns Hopkins, Food policy resources <https://foodpolicynetworks.org/food-policy-resources>
- H3, dietary change initiatives database
- [Local Government Food Policy Database | Growing Food Connections](#)
- [On food sourcing - Love British Food case studies](#) <https://www.lovebritishfood.co.uk/learn-from-the-best>

- Met Office climate data <https://www.metoffice.gov.uk/research/climate/maps-and-data>
- MUFPP award entries <https://www.milanurbanfoodpolicypact.org/award/> (mentioned twice)
- National Food Strategy database (unpublished) (mentioned twice)
- Overton, <https://www.overton.io/>
- Scottish Research Institutes <https://sefari.scot/>
- Solar Impulse <https://solarimpulse.com/>
- Sustainable Food Places website e.g. case studies and awards applications <https://www.sustainablefoodplaces.org/resources/> (mentioned twice)
- University at Buffalo, Global Database for City and Regional Food Policy <https://foodsystemsplanning.ap.buffalo.edu/resources/global-database-for-food-policies/adv-search-gfpd/>
- Urban Agriculture Magazine <https://ruaf.org/urban-agriculture-magazine/>
- Urban food actions platform <https://www.fao.org/urban-food-actions/en/>
- World Cancer Research Fund International, NOURISHING and MOVING databases <https://policydatabase.wcrf.org/> (mentioned three times)

Appendix 6: Participants in Workshop 2

* indicates collaborator; italics indicates facilitator

Amy Yau, London School of Hygiene & Tropical Medicine

* Ana María Moragues Faus, University of Barcelona

Andrew Bladon, University of Cambridge

Bella Driessen, Sustain

* Christian Reynolds, Centre for Food Policy, City University of London

* David Barling, University of Hertfordshire

* Jess Halliday, RUAF

Joe Livingstone, Queen's University Belfast

* Jonathan Beacham, University of Bristol

Julie Carter, University of Cambridge

Katy Cooper, UK Working Group on NCDs

Kelly Parsons, University of Cambridge

Leticija Petrovic, Food Foundation

Monika Zurek, ECI, University of Oxford

Pan He, Cardiff University

Rebecca Lait, FixOurFood, University of York

* Rebecca Wells, Centre for Food Policy, City University of London

* Sofia Parente, Sustain

Struan Tait, University of Cambridge

Tracey Duncombe, University of Reading

Appendix 7: Summary of discussions in Workshop 2

Identifying current applications of TSB v.1

Participants were asked to consider how the TSB could be used in their own organisations and other possible uses for it in its current form. Organisation-specific suggestions included:

- The Good Food Local¹² surveys will be a benchmarking tool to track council action around the country and help policymakers think about food from a systems perspective. The TSB would be valuable in identifying new ideas and encouraging councils to trial innovative solutions.
- Fix Our Food would use the TSB to compare and contrast Fix Our Food's own solutions with similar ideas elsewhere.
- The UKRI Transforming UK Food System Centre for Doctoral Training could use the TSB as a teaching tool and source of solutions – and students are already planning on using it.
- Sustainable Food Places and Sustain could use the TSB in future campaigns.

Suggestions were also made as to other ways to use the TSB:

- Source case studies that go beyond the 'usual suspects' of examples. These case studies could also be of interest to a wider audience in non-communicable disease prevention and could feed into, for example, the WHO/World Bank 2nd Global Dialogue on Sustainable Financing for NCDs, to be held in June 2024.
- Communicate the potential range of actions for those who have a burgeoning interest in food systems (i.e. giving a flavour of what is available).
- Provide a useful guide to those interested in specifics (such as focusing on food waste, plant-based diets etc.).
- Enable comparison across geographies – for example, how local solutions differ between countries.
- Identify what has not been successful in the past or, alternatively, ideas for which there is currently limited evidence but which would be good to test further.
- Identify potential new partners and funders: 'a database of people who have done this and who we might like to work with'.

Options for publishing TSB v.1

Participants were asked to consider the most useful format in which to publish the TSB and also what guidance would be appropriate (with a reminder that the remaining time and resources on the project are limited). Three possibilities for publication were initially suggested, before the breakout discussions, namely:

¹² Sustain, Good Food Local <https://www.sustainweb.org/good-food-local/>

- 1) Publication in data-paper style, with the main article describing methods and providing a high-level overview, with the TSB as supplementary material.
- 2) Host the TSB as a file on a website (perhaps as a downloadable file), along with a summary and user guide.
- 3) Develop a more user-friendly front end to the database and place it on a dedicated website.

There was general agreement that an associated peer-reviewed article would provide academic weight to the TSB. However, the TSB itself would benefit from being hosted on a website to give it more flexibility over time, rather than being a static appendix to a paper. The message was clear that this must not be restricted to an academic audience: wherever the TSB is published, it should be accessible by and appropriately targeted at potential users, with appropriate communications at launch and sustained over time. Any platform on which it is presented will need to be very carefully tested for usability..

A challenge of presenting the TSB as a downloadable Excel file is it could be copied and hosted on other websites, which would mean losing sight of who and how many people are downloading it and how it is being used. One way to overcome this problem could be to use the platform Airtable, which can be used for cross-organisational data sharing: it can be quite simple and can be filtered by category.

A further challenge is how to update the TSB once it has been published. The early form of the WCRF's NOURISHING database of policies was not updated often, so lagged behind – but updating requires money. The TSB differs from NOURISHING in that it includes many ideas (which are not time sensitive) rather than just implemented actions (which can be time sensitive if they no longer exist etc).

Ideas for hosting:

- The Mandala website (the back-up plan for hosting).
- There are plans to develop a repository of all the Synergy projects, so might TUKFS help to fund and maintain the TSB on this new site?
- The Strategic Priorities Fund is keen to do more in this space, so could be an option.

Other databases can provide inspiration – and it could be worth talking to those behind other databases to ask what has worked and has not worked, to learn from others and avoid pitfalls:

- The Carbon Calculator database is underpinned with a widget that enables users to select different foods and calculate their carbon impact.
- Other databases include Nature Food's new 'resource' section and the HESTIA database.

- A project to develop a database and case studies of urban mobility platforms was published a few years ago and faced challenges about how to publicise it over the longer term.¹³

Finally, useful further outputs to help to reach the appropriate audience would be a step-by-step how-to guide and a video both explaining the rationale for the TSB. The video need not be complex but would be likely to be welcomed by users.

Ideas for development

The discussion on ideas for development focused on two questions:

- 1) What would participants like to see added to the TSB to increase its scope, usefulness and impact?
- 2) How much should development focus on expanding version 1 or on evolving to version 2 of the TSB?

There was discussion on the definition of ‘duplication’. The same example being used twice would certainly be duplication, but the same solution being used in different places could be very useful for users to compare and contrast. The latter is useful (different settings, funding models etc.) and is more fine-grained, so do not over de-duplicate.

This linked to discussion on identifying a typology or ontology that would help to clarify how different solutions are related (although this would require thematic analysis of every solution). This could help to track how projects and ideas evolve over time. For example, carbon labelling was briefly popular, but the difficulties of doing it meant that it was largely dropped. However, the experience encouraged Walkers Crisps to do an internal audit of its own production, which led to cuts in carbon emissions. These are seemingly unconnected ideas, but in fact followed on from one another. There is a wealth of knowledge out there on how such evolutions have taken place: a meeting on this could be useful.

Whether and how to include ‘cost’ in the database was discussed. This is not straightforward, as costs may be different in different contexts – so what other related information would be needed (e.g. what were the costs incurred for and spent on, and what were the benefits?). Cost alone is not sufficient, as something expensive but effective may be more appealing than something cheap but ineffective.

The point was reiterated that if the database is insufficiently user friendly – in version 1 or version 2 – then no matter how good the material and how much the scope is extended, it will not be used. It will be important to do user-testing among potential user groups (such as people working in local government) to ensure that it works for them. Also, local governments vary greatly in their structure, so user testing could help

¹³ University of Manchester, ‘Digital platforms and the future of urban mobility’ (undated)
<https://www.sci.manchester.ac.uk/research/projects/digital-platforms/>

to ensure that the database is granular enough for use by someone in local government who has a specific interest, rather than just presenting them with all the ‘local government’ solutions.

Other ideas for development included:

- Is there a way in which users could connect through the database, to enable those starting out to accelerate the initial process and ask for advice? This would require gathering of searchable information on who is currently working on specific kinds of solution, coupled with some sort of chat function or a large-language model through which users can type what they want to achieve and be directed to particular parts of the database.
- Linking each solution to an SDG target could help to link local solutions to global frameworks.
- Everyone in the TUKFS programme could be asked to populate the TSB with their own evidence – and this could be an approach of interest to TUKFS to demonstrate what each organisation has contributed to the programme.

Ideas for funding

In the final task participants considered what sources are available to apply for funding to maintain and develop the TSB (including any open or upcoming calls), to consider the best way to frame proposals to match goals with funding opportunities, and to provide examples of comparable projects on which to base a funding model and framing.

Philanthropic options may be available – for example, individual funders with an interest in general food systems issues, or smaller charities that focus on specific aspects of the food system. University development offices may have contacts in the philanthropic space.

The private sector can provide funding opportunities, either philanthropic (through companies’ charitable foundations) or directly from the company. Private sector funding can be part of a portfolio of funders (for example, the C40 Cities network has funding from Wellcome but also from Google, L’Oréal etc. – and participants can share information on this). However, the issue of conflicts of interest is significant. If the private sector is involved, caution is needed re. how it is involved with content-gathering. The private sector could fund the front end – e.g. pro bono funding to develop a more user-friendly interface. However, if this is offered, be sure that the eventual database will do what users need it to do, not what the developer thinks users need it to do.

The EU is another source of funding – although this can be challenging because of the need to meet specific requirements. However, this could form one work package within a larger grant. There is EIT funding available at Reading that is linked to EU funding but is more applied. A couple of further UKRI suggestions were also made, which would entail

receiving a proportion of the funding when partnering with institutions in other countries (i.e. building across different locations).¹⁴

Other possible funding sources suggested were:

- QR Policy Support funding at universities for policy-relevant projects;
- Global Alliance on the Future of Food (a consortium of charitable funds);¹⁵
- AFN Network+ (Agrifood for Net Zero);¹⁶
- Belmont Forum has a current international call on climate, environment and health (NERC is involved);¹⁷ and
- another Synergy Fund application, if this can be linked across projects.

There was also discussion on how best to frame this to appeal to funders:

- Focus on equity of access, such as ensuring access for (and content from) users in less-developed countries or around enabling for young people. For example, younger demographics use phones to access the internet, so can the database sensibly be accessed via a phone?
- Make clear to funders that this is not about academic papers: this is about finding solutions for practical challenges and giving ideas and inspiration to policymakers.
- Early in the development phase, develop case studies on how this might be used to take to funders to pique their interest.
- Consider how to present the data in innovative ways. For example, the first few iterations of the Access to Nutrition Initiative's Global Access to Nutrition Index¹⁸ were presented as a hefty pdf, but from the 2021 edition it is instead online as a website that allows users to drill down and compare different food companies on different issues (although a pdf can also be useful). This would require ensuring that the data in the TSB to be stored in ways that could, in future, allow for (for example) the automatic generation of a report on health equity to be drawn up from across the solutions.

Finally, it may be necessary to do a series of smaller funding bids to move towards a what-works model.

¹⁴ UKRI, 'Fund for International Collaboration' (2023) <https://www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/fund-for-international-collaboration/> and UKRI 'ESRC responsive mode: UKRI-SBE lead agency opportunity round two' <https://www.ukri.org/opportunity/esrc-responsive-mode-ukri-sbe-lead-agency-opportunity-round-two/>

¹⁵ Global Alliance on the Future of Food <https://futureoffood.org/>

¹⁶ AFN Network+ <https://www.agrifood4netzero.net/>

¹⁷ Belmont Forum <https://www.belmontforum.org/cras#ceh22023>

¹⁸ ATNI, *Global Access to Nutrition Index 2021* <https://accesstonutrition.org/index/global-index-2021/>