Understanding Overlooked Pathways to UK Food System Crisis

Workshop 1 Optional Pre-read

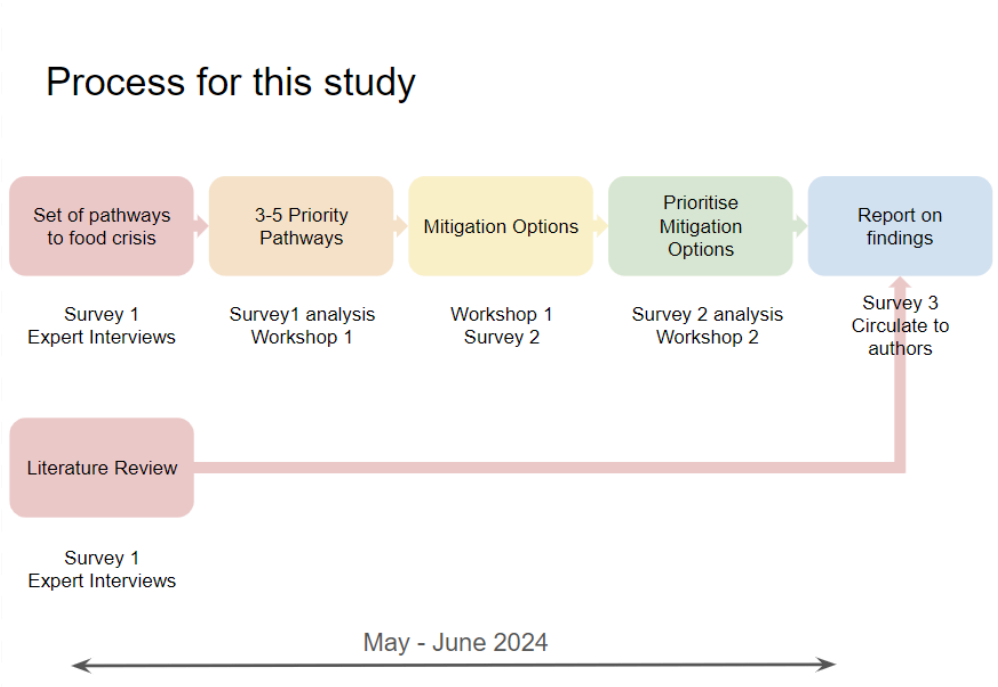
Elta Smith, Sarah Bridle, Aled Jones (the 'Study Team') based on input from Workshop Participants and Expert Interviews

This document is optional pre-reading ahead of workshop 1 from 2pm-4pm BST on Wednesday 5th June 2024. It summarises the (anonymised) findings from Expert Interviews and Survey 1. We will include the contents of this document as supplementary information in the final report – your comments and suggested edits are very welcome.

Recent events have highlighted the fragility of global supply chains and the vulnerability of food systems to a wide range of disruptions. This project aims to uncover those "unusual suspects" – pathways that may be less obvious but could have significant consequences. By understanding these pathways, we can better prepare for and mitigate the potential for UK food crises arising from food system failures.

The Study Team conducted 14 Expert Interviews to discuss potential pathways to food system crisis in the UK, including the potential for multiple and cascading risks acting in concert. These interviews helped confirm risks, identify additional potential factors and map interlinkages.

A survey of 17 Workshop Participants ("Survey 1") was conducted to prioritise overlooked trigger risks and co-occurring risks to assess the level of agreement between the Workshop Participants and Expert Interviews ahead of Workshop 1.



Definition of Food System Crisis

Following feedback from Survey 1 and the Expert Interviews, we have updated the definition of 'food system crisis' to be used in this study to:

"people lack access, availability or cannot afford enough safe nutritious food, leading to 20% of people anxious about significant impact on quality of life (e.g. due to hunger, malnutrition, disease outbreak, civil unrest)."

All the feedback and original definition can be found on slides 2-5 here https://docs.google.com/presentation/d/1DS5QDp5ZzYjGsK5gWHUv6yM1qIxRvRL1D6G9fsPXCTs/edit#slide=id.g2ded7c6ae38_0_10

Common triggers related to important but overlooked risks in the food system

We used two different approaches to identifying potential overlooked risks that could lead to a UK food system crisis. Firstly, in the Expert Interviews we invited suggestions for how a crisis could unfold, capturing how the risks could combine. Secondly we asked Workshop Participants to prioritise overlooked risks and potential co-occurring risks. This section summarises the results from these two activities.

Themes emerging from the Expert Interviews

- **Extreme weather events:** Increasing frequency of extreme weather events such as heatwaves, droughts and flooding were frequently mentioned as a primary trigger across multiple pathways, impacting agricultural production and leading to food shortages and price increases.
- **Geopolitical instability / international conflicts** (e.g. Russia-Ukraine war) disrupting global food supply chains were frequently mentioned in pathways related to supply chain disruptions. International conflicts and trade restrictions disrupt global food supply chains and increase food prices.
- **Financial pressures / government policy**: Insufficient financial returns for agricultural production leading to reduced domestic food production or reduced availability of food through imports was cited in several pathways, particularly those involving government policy failures.
- **Social inequalities:** Widening gaps between socio-economic groups exacerbating food insecurity and increased reliance on food banks and poor nutrition among disadvantaged populations leading to rising food prices reducing food affordability for consumers was highlighted in pathways focusing on economic instability.

The top overlooked primary triggers selected in Survey 1

- Extreme weather (including storm surges, flooding, snow, drought) (17%)
- Ecological collapse (15%)
- Breakdown in political cooperation (regional or national) (11%)
- Endemic poverty (10%)
- Non-nuclear war (8%)
- Trade deals that undermine domestic production (8%)

The top co-occurring risks selected in Survey 1

- Trade restrictions or protectionism (14%)
- Extreme weather (including storm surges, flooding, snow, drought) (13%)
- Ecological collapse (11%)
- Breakdown in political cooperation (regional or national) (9%)
- Financial crash (9%)

Risk combination matrix from Survey 1

The survey enabled a prioritisation according to risks that might co-occur with primary risks (modulo the small number statistics given 17 participants):

		Total Co+Primary	30	26	20	15	13	12	12	11
		Copy of total Co	13	11	9	14	3	9	4	3
		Total Primary	17	15	11	1	10	3	8	8
			Primary risks							
Total Co-occurring			**a. extreme weather (including storm surges, flooding, snow, drought)**	**j. ecological collapse**	**g. breakdown in political cooperation (regional or national)**	**d. trade restrictions or protectionism**	**f. endemic poverty**	**h. financial crash**	**c. non-nuclear war**	**aa. trade deals that undermine domestic production**
13	Co-occurring	a. extreme weather (including storm surges, flooding, snow, drought)	2	1	2	0	1	1	1	2
11		j. ecological collapse	3	1	0	1	0	0	2	0
9		g. breakdown in political cooperation (regional or national)	B 2	2	1	0	1	1	1	1
14		d. trade restrictions or protectionism	1	2	A 4	0	0	1	2	0
3		f. endemic poverty	1	0	0	0	0	0	0	1
9		h. financial crash	0	0	1	0	C 2	0	1	2
4		c. non-nuclear war	0	0	1	0	1	0	0	1
3		aa. trade deals that undermine domestic production	0	1	0	0	0	0	0	0

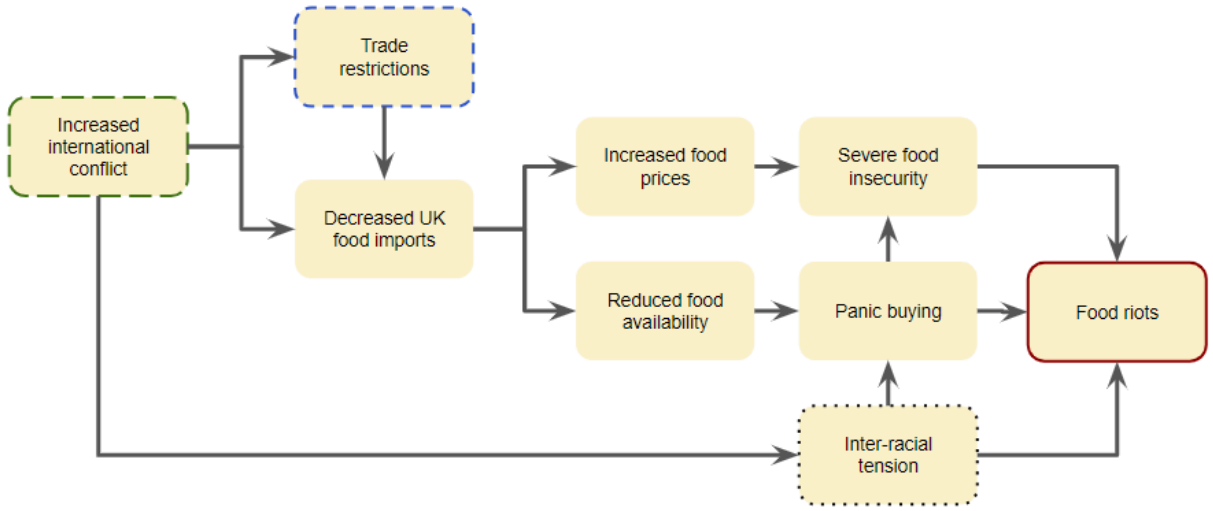
Full details of the results of Survey 1 (anonymised) can be found here https://docs.google.com/presentation/d/1DS5QDp5ZzYjGsK5gWHUv6yM1qIxRvRL1D6G9fsPXCTs/edit#slide=id.p

Common Pathways to Food System Crises

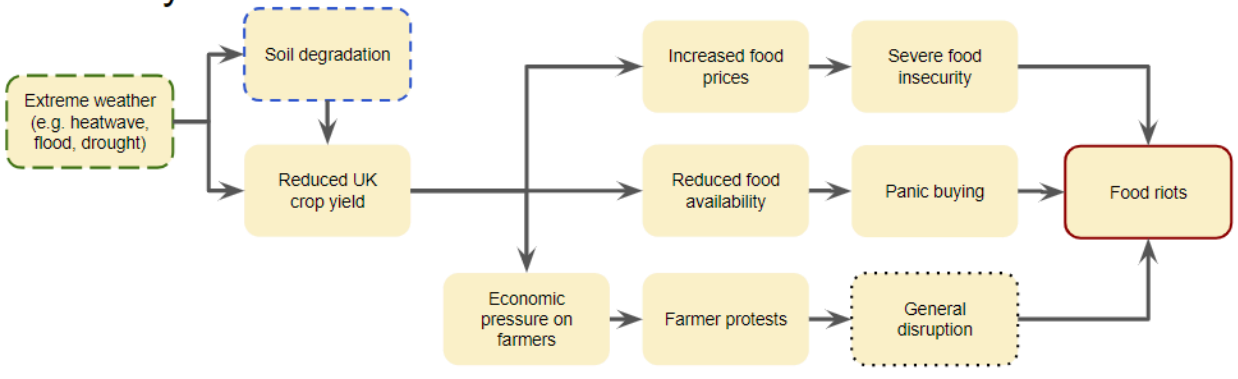
Pathways were examined in detail in the 14 interviews. We have analysed the pathways coming from the interviews and distilled them into 5 relatively distinct pathways. Interviewees frequently combined several elements in the pathways they described, and indeed this is quite plausibly going to happen in real life. For practical purposes in this study we focus on a set of pathways that each contain roughly two triggers, which come from the range of high priority triggers, reflecting popular combinations. We will then consider mitigation options for each pathway looking for no-regrets or conflicting measures, on the assumption that this will produce a useful set of mitigation options for a large number of triggers. We defer the study of more than two triggers occurring simultaneously to future work.

We analysed the Expert Interviews independently of the results of Survey 1 and identified 5 pathways. We found that 3 of the 5 pathways corresponded to popular combinations from the survey, and ordered the pathways accordingly (pathways A-C below correspond to the marks ‘A’, ‘B’ and ‘C’ on the risk combination matrix above).

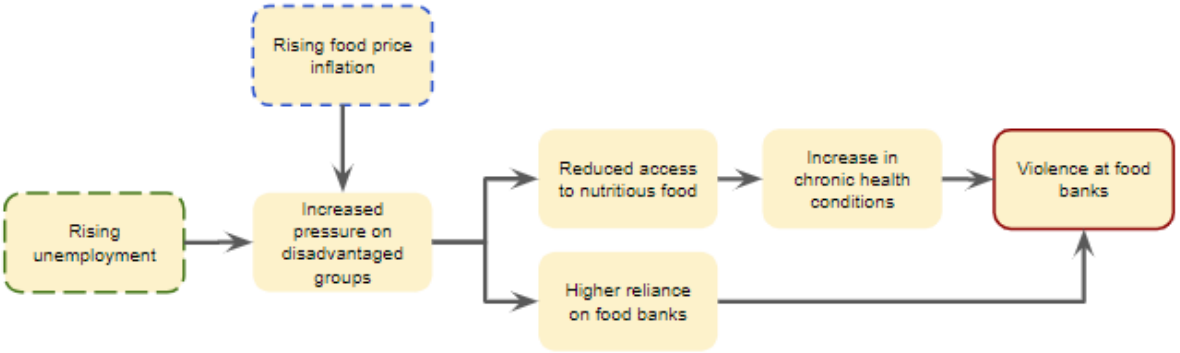
Pathway A
Geopolitical Conflict and Supply Chain Disruption Pathway



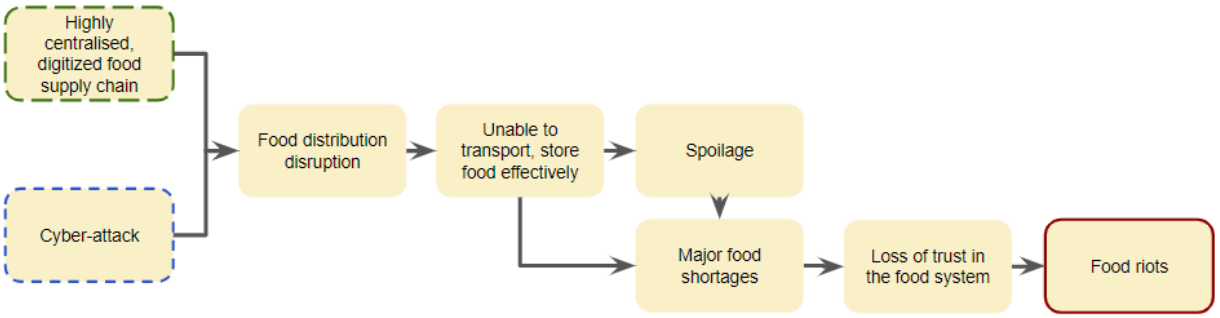
Pathway B
Climate Change and Agricultural Production Disruption Pathway



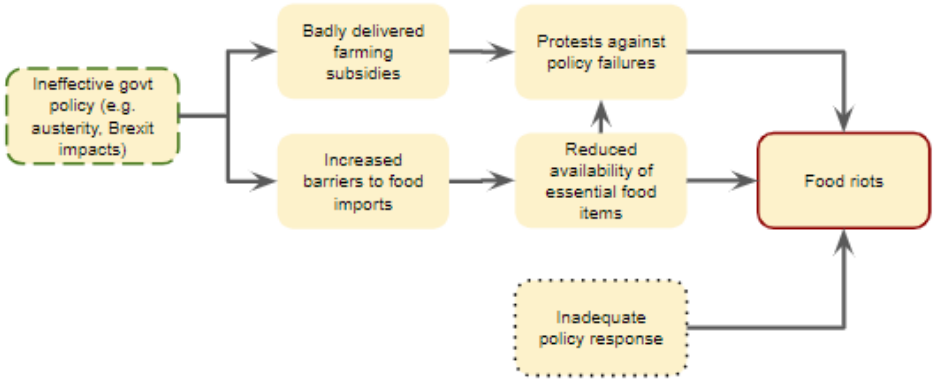
Pathway C
Economic Instability and Social Inequality Pathway



Pathway D
Infrastructure Vulnerability and Cybersecurity Threat Pathway



Pathway E
Government Policy and Regulatory Failure Pathway



Next steps

- Workshop 1 will prioritise and refine the overlooked pathways, with a start on mitigation options.
- Survey 2, Workshop 2 and Survey 3 will focus on mitigation options / what we can do about it.
- We will draft a report on the findings, including a short literature review using the inputs from Survey 1 and the Expert Interviews.