National Audit Office

REPORT

Resilience of the food supply chain to disruptions

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Key facts

Food is fundamental to daily life and is strategically important for the UK economy

£148 billion was spent by UK households on food in 2025, excluding eating out.

In 2025, the UK's food 'self-sufficiency ratio' was around **60%**. This means that food produced in the UK was around 60% of the value of food consumed in the UK.

Food is **one of 13** Critical National Infrastructure sectors, that are essential to the country's functioning.

Food supply disruptions can have a significant impact on consumers, businesses and government

- Food price inflation from 2020 to 2025 peaked at **19.2%** in March 2023 because of higher input costs, global market conditions and geopolitical factors.
- Disruptions have increased operating costs for businesses and, in some cases, disrupted day-to-day operations (for example, the cyber-attacks on retailers in 2025).
- During the COVID-19 pandemic, the Department for Environment, Food & Rural Affairs (Defra) spent **£200 million** to deliver **4.7 million** food boxes to clinically vulnerable people.

The government is responding to increasing risks to the food supply chain, but more needs to be done

- The food supply chain faces a range of acute risks (such as extreme weather, cyber-attacks and energy disruptions) and longer-term chronic risks (including climate change), which are complex, becoming more likely and with potentially more severe impacts.
- Defra's 2025 publication *Towards a Good Food Cycle* identified resilience of the food supply chain to disruptions as one of 10 priority outcomes. However, it has not yet set out how it will achieve this or measure improvements.
- Defra maintains plans for responding to a range of food supply disruption scenarios, but the last time a severe disruption to food supply was tested through a national exercise was in 2023, which found limitations in its preparedness.
- The government's approach in recent years has shown limitations in engagement on household and community resilience; legal powers for Defra during emergencies; and capacity and clarity of expectations in local resilience forums to respond to food supply disruptions.

Summary

1 Food is fundamental to daily life, with UK households spending £148 billion on food in 2025 (excluding eating out). It is also a strategically important sector for the UK economy – the agri-food sector supported 4.1 million jobs across Great Britain in 2025 (11.7% of the workforce) and generated £162.3 billion in economic gross value added in 2024 (6.2% of the national total). The UK relies on a combination of domestic production and imported food. In 2025, the UK's food 'self-sufficiency ratio' was around 60%. This means food produced in the UK was an estimated 60% of the value of food consumed in the UK. Domestic food production also depends on a range of imported inputs, such as fertiliser and animal feed.

2 The food supply chain covers all stages from food production to consumption and includes agriculture, manufacturing, storage and distribution, wholesale, retail and catering. It is complex and highly interconnected, with goods often moving through multiple stages and locations before reaching consumers. The system is primarily industry-led, and businesses are responsible for managing their own operations and resilience to disruptions.

3 The government has designated food as one of 13 Critical National Infrastructure (CNI) sectors that it considers essential to the country's functioning. The Department for Environment, Food & Rural Affairs (Defra) is the lead government department responsible for security of food supply, while the Food Standards Agency has lead responsibility for food safety and public health standards. The Cabinet Office leads on cross-government CNI policy, with local authorities and local resilience forums having an important role in responding to emergencies at a local level across a range of different risks, including those affecting food supply. Defra's 2025 publication *Towards a Good Food Cycle* identified resilience as a priority, including improving preparedness for supply chain disruptions.

4 The food supply chain faces a wide range of risks that can cause disruption. These include 'acute risks' – discrete events requiring an emergency response – such as extreme weather, cyber-attacks, energy disruptions and animal, plant or human disease outbreaks. It also faces longer-term 'chronic risks' such as climate change, which can gradually erode resilience over time. Risks can be interrelated and may trigger or exacerbate other risks. For example, climate change is increasing the likelihood of extreme weather events.

5 Disruption to food supply can lead to food price inflation, less consumer choice, and vulnerable people struggling to access food, which can worsen issues such as food poverty and the health effects of poor diet. It can also increase operating costs and disrupt operations for businesses, and lead to significant costs for the government. The government's National Risk Register highlights several risks that, while considered low in likelihood, could cause catastrophic disruption (the highest impact category) if they occurred, and result in food shortages because of a failure of the food supply chain. Examples of these risks include a national power outage, pandemic, nuclear accident, or large-scale chemical, biological, radiological or nuclear attack.

Scope of this report

6 This report examines whether Defra, working with key public and private organisations, is taking effective action to ensure the food supply chain is resilient to disruptions. This report assesses:

- key risks affecting the food supply chain and how Defra and industry have responded to recent disruptions (Part One);
- Defra's understanding of risks to the food supply chain and its actions to improve resilience (Part Two); and
- Defra's preparedness for catastrophic disruption to the food supply chain (Part Three).

7 Food policy is a devolved matter. This report focuses on Defra's responsibilities for building food supply chain resilience in England. It does not cover how Defra works with the devolved governments, the Cabinet Office's coordination role for resilience across government, or the resilience or sustainability of domestic food production. Domestic food production is a vital part of the food supply chain, with concerns in recent years about profitability, resilience to long-term risks like climate change and anti-microbial resistance, and competing land use pressures. We intend to examine the resilience of domestic food production in future work.

Key findings

Response to recent disruptions and current key risks

8 The food supply chain has maintained overall food availability during recent disruptions, in most cases without material government intervention. The food sector adapted quickly and flexibly to recent disruptions including COVID-19, the war in Ukraine and cyber-attacks, maintaining overall food availability. Private sector businesses, which have commercial incentives to maintain food supply, led the response to these disruptions with limited government intervention. Their resilience was supported by the ability to rapidly switch suppliers or source alternate products from all over the world (paragraph 1.7).

9 However, recent food supply disruptions have had significant impacts on consumers, businesses and the government. For consumers, recent disruptions have led to food price inflation (peaking at 19.2% in March 2023), some occasional reduction in choice, and vulnerable people being unable to leave their homes to shop for food during the COVID-19 pandemic. Defra remains concerned about food price inflation, particularly the potential future impacts of conflict in the Middle East. Businesses in the food supply chain have faced increased costs and, in some cases, disruptions to day-to-day operations, for example following 2025 cyber-attacks on retailers such as Marks and Spencer and Co-op. Government intervention, when required, can involve significant expenditure. For example, Defra spent £200 million to distribute 4.7 million food boxes to clinically vulnerable people during the COVID-19 pandemic (paragraphs 1.8 and 1.9, and Figures 3 and 4).

10 Risks that could affect food supply are complex and becoming more likely, with potentially more severe impacts. The food supply chain faces a range of acute risks that businesses would need to respond to, as well as chronic risks which can exacerbate acute risks and reduce longer-term resilience. The way the food supply chain has developed over time has prioritised efficiency, which reduces costs for businesses, and therefore for consumers. However, it leaves the supply chain more vulnerable to disruptions. Defra and food supply chain stakeholders see risks increasing, and businesses are investing to address growing risks such as increased threats of cyber-attacks. Defra is less confident about the ability of businesses to withstand shocks without government intervention in the next five to 10 years because of increasing risks and the potential for more severe disruptions (paragraphs 1.10 to 1.13 and Figure 5).

11 The government and businesses have not faced a catastrophic event that caused a failure of food supply. Some recent disruptions required a significant response from businesses, the public and government, such as the COVID-19 pandemic, in which the availability of some products was affected by rapid changes to consumer behaviour. However, this did not cause a failure of the supply chain, and overall food supply was maintained. A catastrophic event that caused a failure of food supply would require much greater intervention by the government to ensure public access to food (paragraphs 1.7 and 1.13 and Figure 4).

Defra's understanding of food supply risks and actions to improve resilience

12 Defra's 2025 publication *Towards a Good Food Cycle* includes an objective to improve the resilience of the food supply chain, but Defra has not yet set out how it will achieve this or measure improvements. Defra's 2025 publication set out a high-level strategic vision for the food system and 10 priority outcomes, including ensuring greater preparedness of the food supply chain to disruptions. It is still developing many of the supporting policies, plans and metrics to monitor improvement. Food supply chain stakeholders were supportive of the vision but thought it lacked detail on implementation plans and outcome targets. Defra is currently updating its plans so that the outcomes it wishes to achieve across all its policy areas, including on food security, are more clearly linked to actions and indicators of progress (paragraphs 2.2 to 2.4 and Figure 6).

13 Defra has recently increased its skills and resources to manage food supply disruptions. Both the Cabinet Office's 2026 capability assessment and a Defra Resilience Board paper in 2025 highlighted concerns over Defra's capability to manage food supply disruptions. While Defra does not have a clear way to translate its understanding of risk and the level it is willing to tolerate (its 'risk appetite') into clear actions and priorities, it has recently strengthened its resilience governance and trained more staff in its Agri-Food Chain directorate. In May 2026, Defra increased the size of its Food Supply Chain Resilience team from 6.5 full-time equivalent staff to 16.5 (paragraphs 2.5 to 2.8).

14 Defra's engagement with food supply chain businesses is mixed, and some stakeholders think there are gaps in its understanding of risk. Food supply chain stakeholders praised Defra's engagement during COVID-19, and Defra has established groups, reports and tools to monitor risks and issues. However, several stakeholders told us that, compared with the past, the groups established to engage with businesses meet less frequently, lack clear objectives and receive less support from Defra. Some stakeholders thought Defra had a reasonable high-level understanding of how the food supply chain works and the risks it faces, while others highlighted gaps in Defra's understanding of specific areas such as the cold chain, which provides specialist temperature-controlled facilities across the supply chain (paragraphs 2.9 to 2.13 and Figures 7 and 8).

15 A more coordinated approach to managing risks to food supply across government would help build resilience. Some key risks to food supply are managed by other government departments, such as energy (Department for Energy Security & Net Zero) or transport (Department for Transport) disruptions. Defra therefore relies on cross-government coordination to strengthen food supply chain resilience in the long term. Defra participates in cross-government working groups and boards, facilitated by the Cabinet Office, to coordinate actions and share information across CNI sectors. There are also boards covering specific sectors, such as the Major Energy Risks Board, and across sectors and departmental interests such as the Supply Chains Resilience Steering Group. Defra engages directly with other government departments on specific dependencies, such as chemicals, that affect the food supply chain. However, in 2025 Defra stated it had "very little confidence" that current CNI cross-government governance is sufficiently joined-up, with limited cross-government work on resilience. Several food supply chain stakeholders we interviewed shared this view. In response to the 2026 Middle East conflict, Defra established the cross-government Food Impacts Coordination Group to ensure departments with critical links to the food supply chain understand the risks, are aware of contingency planning and can input into policy decisions (paragraphs 2.14 and 2.15).

16 There may be opportunities to improve resilience in the food supply chain by learning from approaches used in other CNI sectors and in other countries. Other than food safety and standards, food is a largely unregulated sector. Defra therefore has few levers to incentivise or compel supply chain businesses to improve resilience, compared with regulated sectors such as energy and water. There are also examples from other countries where governments take a more proactive approach to food supply chain resilience, such as stockpiling of essential foods, statutory identification of critical food infrastructure and direct government investment. These may have cost implications, which Defra would need to assess against other policy priorities (paragraphs 2.17 and 2.18, and Figure 9).

17 Until recently, the government has not made household and community resilience a priority, even though this can substantially reduce the impact of a disruption. Defra recognises that household and community resilience can reduce the immediate impacts of food supply disruptions, provide time for government and businesses in the supply chain to respond and recover, and reduce the financial impact of disruption. The government's public engagement on emergency preparedness in the UK has been limited. Recent comparative analysis by the Cabinet Office of preparedness surveys shows that, compared with several other countries, UK households are less prepared for emergencies, and government-led messaging to households on preparing for emergencies is less prominent. The government's Resilience Action Plan published in July 2025 highlighted the importance of 'whole-of-society' resilience. The Cabinet Office is developing revised guidance and plans to update the government's 'Prepare' website during 2026 and has established a Societal Resilience team. Further work to increase household and community resilience may mean higher up-front costs for households, or for the government. Defra recognises that households' ability to prepare for food disruptions depends on their individual circumstances, and it is starting to develop work aimed at strengthening community food resilience (paragraphs 2.19 to 2.22).

Defra's preparedness for a severe supply chain disruption

18 Defra is increasing its focus on planning for catastrophic events, where food supply would be seriously affected. In response to findings and recommendations from national exercising, Defra has increased its national power outage planning. Defra is also focusing on food supply as part of the Cabinet Office Home Defence Programme, amid intensifying geopolitical tensions such as Russia's invasion of Ukraine and conflict in the Middle East (paragraphs 3.2 and 3.5).

19 Defra's plans for responding to an event that severely disrupts food supply lack operational detail and industry involvement. Defra has an overarching 'playbook' for food supply disruptions that it uses to respond to a range of incidents. The playbook is focused on government structures and processes. It has not been developed with, or seen by, businesses in the food supply chain, or independently assured, creating risks that plans may not work in practice. A 2023 national exercise found that many response plans across government would not be sufficient in the event of a national power outage. It recommended that detailed national plans be produced across several key sectors, including food supply, which departments could enact automatically. Defra assessed that the cost of developing a full emergency plan for food was disproportionate to the level of risk and likelihood, although this decision was not informed by an explicit assessment of risk appetite. Defra is instead developing a more basic plan (paragraphs 3.3 to 3.5).

20 No specific food supply chain assets are currently included in the government's database of CNI assets. The government maintains a 'CNI Knowledge Base' tool which maps out CNI systems and assets. Currently, key infrastructure for the food supply chain is not included as Defra had previously assessed that no individual asset was sufficiently critical. This limits the government's ability to identify the most essential parts of the food supply chain, and which assets would need prioritising for support during a severe disruption. Defra began work in late 2025 to explore populating the Knowledge Base with information on food-related infrastructure and it is aiming to complete the initial phase by the end of 2026 (paragraphs 3.7 and 3.8).

21 The last exercise on a catastrophic event which tested the impact and response for food supply was in 2023, which identified limitations in Defra's approach. Defra tests its preparedness for food supply disruptions through exercises. It participates in national exercises, where the primary focus is not food supply disruption, and also runs its own specific food-related exercises. A national exercise in 2023 was the most recent to significantly test a catastrophic event that would severely disrupt the food supply chain. Defra therefore has not meaningfully tested changes it made to address limitations identified by that exercise. National exercises and most of Defra's own exercises have not involved food supply chain businesses, and some food supply chain stakeholders told us that more involvement in exercises would be useful (paragraphs 3.9 to 3.11 and Figure 10).

22 Defra lacks the legal powers it may need during a catastrophic event to maintain food supply. Most legal powers that can be used during food supply disruptions are held by other government departments. For example, during COVID-19 the then Department for Business, Energy & Industrial Strategy was responsible for the decision to relax competition laws, allowing food retailers to coordinate actions more effectively. While there is existing and planned legislation which could provide Defra with some powers during a food supply disruption, Defra considers that these would be insufficient to manage a catastrophic event. For example, it would be unable to direct businesses to take actions during an emergency situation. Other governments internationally, such as Norway, have more powers to require business participation during emergencies (paragraphs 3.13 to 3.16).

23 The capability and capacity of local resilience forums (LRFs) to respond to food supply disruptions is insufficient, and LRFs lack clarity on what is expected of them. The Ministry of Housing, Communities & Local Government (MHCLG) told us that most LRFs do not plan specifically for food supply disruptions, although this should form part of their planning for other risks, such as power outages. MHCLG and the Cabinet Office acknowledge that LRFs' capacity and capability across a range of risk areas do not match lead government departments' expectations. The Cabinet Office's 2026 National Capabilities Assessment relating to food supply highlighted a gap in the ability to respond at a local level during catastrophic scenarios. Defra has not been clear on what it would expect from LRFs during a severe food disruption. Limited resources, competing priorities, and lack of legal powers to direct local businesses (for example, supermarkets) during emergencies may reduce LRFs' effectiveness. Concerns also remain over LRFs' ability to identify vulnerable people who may need support in an emergency. Defra is planning to work with retailers and LRFs to develop a local food distribution framework for vulnerable people (paragraphs 3.17 to 3.20).

Conclusion on value for money

24 To date, Defra has largely relied on the private sector to manage disruptions to food supply. This has been possible because of the resilience in the UK food system, which can source from all over the world, and commercial incentives on businesses to invest against risks and respond during a crisis. However, the sector's ability to withstand catastrophic events that cause severe disruption has not been tested, and Defra's actions in recent years have not been sufficient to ensure the supply chain is resilient to such events.

25 Defra has recognised that risks of significant disruption are rising, and it has increased its capacity to support strategic work to build resilience within the food supply chain, communities and households. But this work remains at an early stage, and it is timely for Defra to assess whether its current approach and preparedness remain in line with the increasing level of risk. Defra could make better use of existing frameworks – such as using the government's 'CNI Knowledge Base' tool to identify critical food supply chain infrastructure – and learn from approaches taken in other countries. There is also opportunity to strengthen preparedness for emergencies by increasing the transparency of the government's planning assumptions and testing these with local government and industry. Some activities to reduce risk and increase resilience may have cost implications for the government, businesses or households. Defra will need to be clear on the level of risk it can accept to make informed decisions about its priorities, and whether these costs and their potential to increase resilience represent value for money.

Recommendations

26 Defra should:

a **define its risk appetite for levels of food supply disruption it is willing to tolerate and embed this into its policy and emergency response decision-making –** this would support it to make risk-informed decisions and trade-offs, including on when and how to intervene during emergency situations;

b **develop clear performance metrics to monitor progress against the outcomes in its 2025 publication** *Towards a Good Food Cycle*, including the specific outcome to ensure "greater preparedness for supply chain shocks, disruption, and impacts of chronic risks" – this could be part of its wider work to strengthen its overall framework for the outcomes it seeks to achieve;

c **refresh arrangements for engagement with food supply chain businesses –** it should assess the extent to which its current forums adequately cover the full supply chain, and ensure each group has clear objectives and adequate administrative support;

d **assess the potential costs and benefits of approaches used to build resilience in other sectors or countries and whether they are wholly or partly applicable for the UK's food supply chain –** this could include approaches that incentivise private companies to build resilience into their operations or building resilience through direct government actions (such as stockpiling);

e **review its response plans to determine whether they represent good practice in preparedness planning and would be effective in practice –** this could include:

- reviewing approaches in other areas of Defra oversight (such as animal disease contingency plans) and across government;
- greater involvement of the private sector supply chain in developing plans and exercises; and
- considering whether an independent review of its plans would help strengthen them.

Defra should regularly test these plans through exercises, including covering severe or catastrophic disruptions, and use the results to identify lessons and refine its approach; and

f **undertake a comprehensive review of the current legal powers it could use to respond to a catastrophic event which causes a severe food supply disruption –** if this identifies clear gaps, it should determine a timetable for bringing forward proposed legislative changes.

27 Working with the Cabinet Office and other government departments, Defra should:

g **ensure that future initiatives to encourage greater preparedness by households and communities include appropriate detail on food preparedness and the level of disruption households should reasonably expect to prepare for –** this work should be informed by examples from other countries;

h **assess the current cross-government governance approach to food supply resilience and identify and implement any improvements required,** to ensure policy alignment across all CNI sectors and a coordinated response during emergencies; and

i **accelerate its consideration of critical food infrastructure assets** and which, if any, should be included in the government's 'CNI Knowledge Base' tool.

28 Working with MHCLG, local authorities and LRFs, Defra should:

j **establish clear expectations for LRFs in the event of a severe food supply disruption and communicate this to all LRFs –** this should include:

- co-designing with the local government sector the measures needed to address severe disruptions to food supplies; and
- establishing a process for ongoing engagement with LRFs to understand their preparedness and disseminate information on, for example, latest risks to food supply and updates to policy and guidance.