

Written evidence submitted by the STFC Food Network+ 2.0 (COV0152)

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This written evidence is submitted by Sonal Choudhary, Raymond Obayi, Seyed Ebrahimi, Rakesh Nayak, Panayiota J Alevizou and Graeme Heron on behalf of the STFC Food Network+ 2.0 (SFN 2.0) research programme at the University of Sheffield. The STFC Food Network+ 2.0 is a £1.2M research network programme funded by the UKRI Science and Technology Facility Council and focuses on bringing together STFC community with food researchers, industries and policy makers for working towards sustainable and resilient food system in the UK and beyond. Dr Sonal Choudhary is the Head of Operations Management & Decision Sciences Research Centre at the University of Sheffield (UoS) and is Principal Investigator of SFN 2.0; Dr Raymond Obayi is a lecturer in Operations & Supply Chain Management at the University of Manchester with research expertise in policy initiatives in agri-food sector, Dr Seyed Ebrahimi is a research fellow in sustainable operations at the UoS with research expertise in data science and technology applications in agri-food, Dr Panayiota Alevizou is lecturer in marketing with expertise in consumer behaviour, labelling & sustainability communications at the UoS, Rakesh Nayak is Manufacturing Liaison for SFN 2.0 and a Process Management Consultant with >15 years of industry experience, Dr Graeme Heron is Programme Director and Senior University Teacher in Operations Management & Decision Sciences at the UoS with >15 years of industry experience in dairy industry. The consultation was undertaken with Geoff McBride who is Theme Leader for Global Food Security, Agri-Tech & Water at STFC.

Introduction

- The evidence presented in this report constitutes a response to “Q1. *Have the measures announced by the government to mitigate the disruptions to the UK food (beef and dairy) supply chains caused by pandemic been proportionate, effective and timely*” and is derived from a rigorous analysis.
- We also present evidence on “Q2. *What further impacts could the current pandemic have on the food (beef and dairy) supply chain, or individual elements of it, in the short to medium-term and what steps do industry, consumers and the Government need to take to mitigate them?*”. The individual elements of the meat and dairy supply chain covered in this report is shown in Figure 1 and we arrive at recommendations on steps that can be taken by the government and industries to mitigate them.

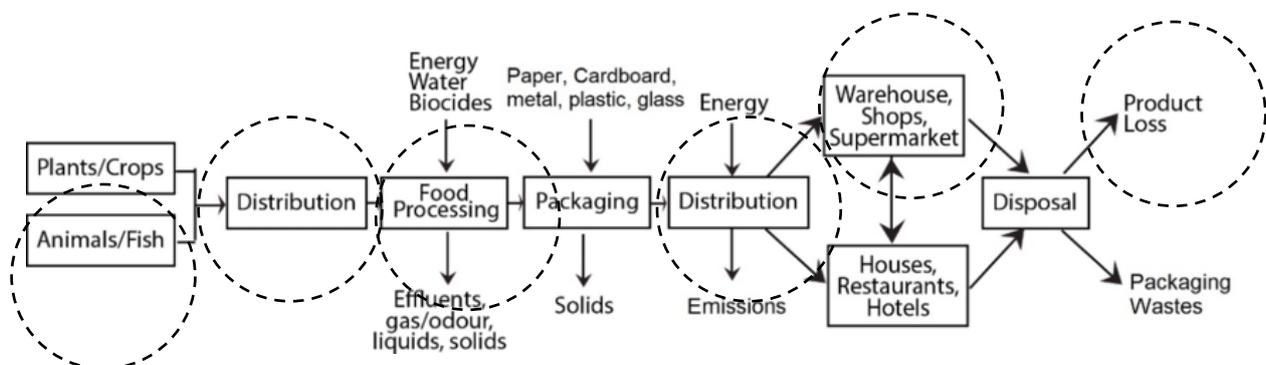


Figure 1: Schematic of food supply chain highlighting focus areas of this study in circles

- To this end, we used existing secondary evidence from many policy documents, government agencies, industry reports and additional primary evidence from food business operators, farmers and processors associations, food charities, and regulators.
- The report is organised into eight key sections, which correspond to the key segments of the beef and dairy supply chains that were most significantly impacted by the pandemic. The sections include (1) production, (2) processing, (3) logistics, (4) retail and consumers, (5) trade (import and export), (6) waste management, (7) labour, and (8) supply chain finance.
- In each section, we introduce the key challenges, the government policies implemented to address them (Q1), the residual challenges as an indicator of effectiveness and timeliness of the policies (Q1), and recommendations to serve as evidence-based guidance on steps the government and industries could take to avert further disruptions to the food chain (Q2).

1. FOOD PRODUCTION

Food production-supply is classified as one of the thirteen critical national infrastructures, which has been significantly impacted by the COVID-19 outbreak. The instant loss of the hospitality sector (hotels, bars, restaurants) and altered customer buying habits, has produced specific production issues for UK milk and meat commodities.

1.1. Policy initiatives

The government has introduced a number of policy initiatives for food production challenges in response to this pandemic.

- Defra offered extensions (15th May to 15th of June) for the Basic Payment Scheme and the Stewardship scheme application deadlines. Through the Coronavirus Act 2020, Defra was given greater powers to respond to the crisis through the introduction of a collaborative data sharing protocol to smoothen key touchpoints between government authorities and food trade associations.
- Through AHDB, farmers were provided beef and lamb deadweight price and feed-forage calculators to effectively tailor supplies to changes in processors demand schedules. Signet-website was created to help with location and availability tracking of breeding stock. TB Disease Report Form (DRF) was temporarily suspended and processing sites for TB reactor cattle was limited.
- British Veterinary Association instructed surgeons to divert resources from other non-essential services to support the sector.
- The Livestock Auctioneers Association implemented changes to auction procedures in line with social distancing requirements.
- The government updated the Regulatory Position Statement (RPS) guide for dairy farmers on waste management.
- Government supported a one off loss insurance scheme for dairy farmers in England and Wales to access up to £10,000 each to help them overcome the impact of the coronavirus outbreak, covering up to 70% of their lost income. NI £25m COVID19 Aid Fund for dairy and beef farmers to offset negative income.

1.2. Residual Challenges

- Fluctuating demand from milk processors leading to farmers being asked to dump milk and paid less price against it.

- Increased demand and order variability from retailers resulting in carcase imbalances and diminished revenues.
- Risk to global supply continuity for critical inputs for feed, supplements, and medicine/vaccinations. Imports of animal feed to the UK surpassed £2.3B in 2018 (95% of soya imported) despite existing potential markets for local alternative feedstock to decrease dependency on imports. Likewise, Marketing Authorisation Holders (MAHs) have noted supply shortages for a number of lactating cow intramammary antibiotics (the resolution date for some will be the first quarter of 2021).

1.3. Recommendations

- Clear policy around scaling back on cheap overseas meat import at a time when UK meat industry is facing carcase imbalance due to demand fluctuation.
- To improve supply chain resilience to disruption costs for the UK family owned farmers and processors, government and powerful private sector stakeholders could channel investments to dairy and beef by-product value chains (i.e. cheese, ice-cream) and alternative distribution channels (home delivery logistics) to mitigate the inefficiencies of the predominant buyer-driven model.
- Strategic bilateral trade agreements to overcome raw material (or finished product) shortage for feed, supplement and medicine production, to insure against a potential second wave of infections.
- Contingency plans for no-deal Brexit impact and knock-on effect on access to EU labour.
- Use data from farmers insurance requirements and recovery/loan repayment efficiency to compute risk vulnerability and develop long-term disruption insurance scheme for vulnerable farmers.
- A similar insurance mechanism to the one recommended here was used previously, to secure UK agri-food productivity post WW2 through price guarantees (paid directly through the Exchequer) and afterwards, via deficiency payments to cover the difference between guaranteed product prices and average market prices for eleven main UK agri-food produce. With advances in digital technologies, more accurate moving average models could be used to smoothen price action and filter out noise from random short-term fluctuations.
- Instead of short-term cash benefits (which is currently assuming 1p loss per litre, instead of actual 15p loss per litre), longer-term safer contract between farmers and processors or retailers is needed to redistribute the risks from farmers to more powerful stakeholders and build a long-term resilience of UK dairy industry.

2. FOOD PROCESSING

2.1. Policy initiatives

- FSA, Defra and PHE recommended the general FSA good hygiene practices for food preparation and the Hazard Analysis and Critical Control Point (HACCP) processes combined with frequent hand washing.
- FSA introduced temporary flexibility or relaxations based on EU Regulation 466/2020 enabling minimised unannounced audits and hygiene inspections at facilities with historically high ratings until the end of June to maximise the use of available resources.

- Ante-mortem inspections could be done on farms itself rather than in abattoirs while post-mortem inspections could be carried by MHIs rather than OV's based on EU 466/2020 regulation to maximise the resources – not yet implemented.
- Lack of clear guidance for use of PPE including face masks, visors in food processing plants.
- PHE, Defra and FSA jointly advised on social distancing of 2m between individuals for businesses to minimise the virus spread irrespective of the type of operations.
- In the absence of PPE and social distancing, FSA suggested the optional use of protective screen guards and slowing the kill line.

2.2. Residual Challenges

- The 2m social distancing guidelines are not bespoke to sector types, making it unpragmatic for meat processing sector where workers work at close quarters in a slaughter-line – resulting unease amongst factory workers, who felt they were not being protected.
- Sudden fluctuation in demand due to lockdown has resulted in beef carcass imbalance – leading to a significant pileup of high-value hindquarter meat usually destined for the foodservice sector at £30/Kg being sold as beef mince for £4-5/Kg, resulting in 20-30% loss in value.
- Most inspection records and documents are handled manually by workers (i.e. FCI, kill sheet etc.), increasing risks of virus transmission.
- No special steps have been taken to avoid multiple audits of abattoirs – resulting in duplication of efforts and inefficient use of resources that are already constrained.
- Cold storages operating at full capacity with devalued frozen and prime cuts.
- Reduction in conventional workforce capacity (down 20% - slower processing lines), skilled staff, and in some cases, temporary plant closures (e.g. Dawn Meats in Northern Ireland).

2.3. Recommendations

- Standardised publication of UK government guidance needed on PPE, bespoke social distancing and furlough scheme applicable in meat processing plants across England, Wales, Scotland, and Northern Ireland to overcome current discrepancies and inconsistencies.
- Roll out of COVID-19 tests for each and every staff at abattoirs (not only ones showing symptoms).
- Encourage less physical presence and facilitation for digital audit services to reduce duplication of efforts.
- Consultation for emergency legislation at times like this to ensure coordinated effort among the dairy supply chain actors to reduce food waste through product diversification, equilibrium in loss sharing and level playing fields.
- Work closely with industry sectors to build, map, and maintain databases for cold storage facilities across the country to build resilience in meat as well as dairy supply chain.
- In the long term, it is recommended to build digital infrastructure around the meat industry enabling information interchange and data interoperability – to prepare for events like this and Brexit (at least three months' notice period is needed for processors to implement changes).

3. LOGISTICS AND DISTRIBUTION

- The broader challenges at play in the food logistics sector of transport in the run-up to Covid19 were largely linked to diseconomies of scale and skilled driver shortages; There are currently over 48,000 freight transport operators in the UK, the vast majority are classed as MSMEs.
- Further to this, driver shortages lead to high turnover of drivers who take implicit knowledge with them as they move on.
- Relatively high proportion of non-UK citizens (12%) employed as drivers in a sector categorised as low-skilled by the government, exacerbating the driver shortage problem in the short to mid-term.
- The upcoming IR35 legislation is also likely to have a negative impact on the overall driver availability pool. The same is expected out of the air quality in the UK agenda.

3.1. Policy Initiatives

- In addition to the initiatives introduced by Defra, the extension of driver hours and relaxation of vehicle related inspections / driver related temporary relaxation of CPC has had a positive impact.
- As other evidence has revealed, the overall balance of food production and importing of food stuffs remained largely stable. Notwithstanding this, the bullwhip effect of febrile panic buying and slow reaction by retailers to impose sensible limits, both exposed the leanness of supply food supply chains and limited ability to be agile in these lean networks.
- The multiplier effect was that distribution centres became bottlenecks at both the first mile of delivery fulfilment phases and the last mile of reverse flows for multiple trip packaging systems etc.

3.2. Residual Challenges

- From a food logistics perspective, the movement of livestock and carcasses was not significantly impacted.
- Wider concerns about distancing of workers did not affect logistics to the same degree as in processing plants. Notwithstanding this, the dominance of large abattoirs will inevitably remain, as will the ensuing relative distances undertaken by livestock.

3.3. Recommendations

- The Government has been slow in implementing support for critical infrastructures to support the efficient movement of food. Much of this has been undertaken by producers, wholesaler, retailers and logistics organisations. The government should spearhead a *critical food logistics, distribution and storage review and needs analysis* to map and prioritise UK food logistics requirements.
- The concerted effort of government agencies and industry stakeholders is required to expedite the improvement of basic support logistics for food freight, storage, and distribution - rest area / access to food / showers etc.

4. FOOD RETAILERS AND CONSUMERS

COVID-19 and the subsequent lockdown have put considerable pressure on the UK meat and dairy markets, which resulted in unstable market prices and rapid changes in food distribution systems. News and viral videos of empty supermarket shelves and other disruptions in the food supply chain in countries affected early by the pandemic, influenced consumer confidence towards the UK food supply system, which led to a relatively short lived “stockpiling” buying behaviour.

4.1. Policy Initiatives

- Defra offered guidance in late April for clinically extremely vulnerable populations advising this category of citizens to self-isolate and providing them with information regarding their access to food, helplines and shopping guidance and behaviour. This was paired with retailers' reassurance that food supply is strong.
- Competition laws were eased to allow collaboration amongst food providers during the pandemic, allowing retailers to share stock level data, distribution depots, delivery facilities and even pool-staff.
- The Department of Transport relaxed retail driver's hours as additional delivery slots were offered to meet high online ordering demand.
- The UK Finance (Trade Association) assisted citizens self-isolating with online payment options.
- Defra and the FSA renewed their guidance on "best before" dates allowing for less food waste and more food available for consumption.
- Defra and WRAP acknowledged the challenges facing not-for-profit food redistributors and issued the COVID-19 Emergency Surplus Food Grant.
- AHDB, Dairy UK, Defra, the Scottish Government, the Welsh Government and the Northern Ireland Executive launched a £1m campaign focused on tea, coffee and milky drinks. This initiative aims to support dairy producers who are facing difficulties due to the closure of the food service sector.

4.2. Residual challenges

- Whilst food access policies and guidance were considered as a reactive rather than proactive approach. The inconsistency in consumer demand for certain product categories (mince meat, dairy etc) created a variation in retail orders for dairy and meat products which resulted in product waste. According to primary data, the dairy and meat farmers as well as meat producers bore the cost of this delay.
- Lack of clear messaging led to panic buying and almost 2-3 months queue for online delivery of food material from major retailers at the start of lockdown.

4.3. Recommendations

- In order to tackle important shortcomings in terms of predicting product demand and supply, the government should incentivise the development of integrated digital platforms with key value stream stakeholders (retailers, food processors and farmers) and relevant government agencies to channel real-time production planning, logistics and order scheduling data.
- In addition, government back awareness campaigns for consumers digital, at-home, and low-touch options for flexible transitions from online to offline services (customer service, assurance and inspections) may ease retail footfall.

5. TRADE, IMPORT AND EXPORT

Approximately 47% of food consumed in the UK was imported (Defra, 2018). Such global supply chains are often very complex and function on a 'just in time' basis. In such times, the focus should not only be on the extent of the UK reliance on food imports, but also the stability of global food chains, and the impact of export constraints on food provenance and quality.

5.1. Policy Initiatives

DIT has introduced a number of policy initiatives for food trade in response to COVID-19.

- The EU State Aid Temporary Framework to mitigate economic hardship (total risk appetite limit of £50-billion and extended to cover EU).
- An Export insurance scheme to cover up to 95% against financial risks that are not covered by export contract, and for cost recovery in the event of contract termination, and buyer default.
- An updated Export Working Capital Scheme to improve guarantees on banks loans by covering up to 80% of lenders risks.
- Increased Buyer finance by boosting UKEF Lending capacity to £8 billion.
- The government has introduced Force Majeure provisions to cover food traders who are unable to fulfil regulatory obligations.
- The government temporarily relaxed competition laws for the dairy sector to ease export/import challenges, minimise waste, and support local producers by incentivising temporary collaborations for production, processing and storage capacity pooling.

5.2. Residual Challenges

- COVID-19 has exposed some vulnerability in the UK food system, which may only get worse with the uncertainty surrounding a no-deal Brexit.
- Over-reliance on imported food (EU border delays) contributed to drop in prime cattle prices by up to 20p/kg and hogget prices by 40p/kg. Retailers intensified imports of cheaper alternatives from Eastern Europe to mitigate contractual shortfalls from panic buying, which resulted in uncompetitive pricing of local produce (mincemeat dropped to £3/kg from £5/kg) and undermined UK farmers.
- Uncertainties surrounding a government strategy for seasonal migrant workers.

5.3. Recommendations

- More effective strategy of communicating trade policy initiatives to farmers and food processing plants (at least three months advance notice for any changes to be implemented is advised).
- Government to conduct a holistic review of current capacity, size, and resource efficiency constraints of key food business operators.
- Develop a national strategy for sustainable labour acquisition and training for the food sector, in addition to post-Brexit considerations for easing movement restrictions and creating a new visa tier for low skilled migrant workers.
- Developing and communicating coherent strategies to protect UK food producers/processors from direct takeovers (consolidations), which may undermine local food production post-Brexit.

6. FOOD WASTE VALUE CHAIN

- The sudden drop in demand due to disruptions to the foodservice sector resulted in the dumping of millions of gallons of milk per day and virtually eroded the UK market for expensive steaks and prime cuts.
- According to the Cold Chain Federation, one of the major causes of the food waste escalation in the immediate aftermath of the COVID-19 disruption was the difficulty in redirecting catering supplies to retail outlets due to variations in pack sizing and labelling requirements.
- Primary evidence from dairy, meat processors, and an open letter from the National Beef Association revealed that the import of dairy and beef affected production planning for homegrown supplies.

- According to data from the Waste and Resources Action Plan charity, household waste makes up about 50% of total food waste (4.5m tonnes annually) and costs nearly £700 per household.

6.1. Government Food Waste Management Interventions

- The government put in place a few interventions to combat COVID-19 related food waste, including a £3.25m cash support for the redistribution of surplus stock and a high priority policy for household food waste by DEFRA.

6.2. Residual challenges

- There are significant mismatches between storage capacities, delivery schedules and demand, which, despite retailers' best efforts, increased the risk of excess milk and carcass imbalances.
- The interventions were insufficient, untimely, and inappropriate to minimise new retailers' waste streams from demand fluctuations and to shift demand channels because of the lockdown.
- There is emerging evidence of multiple retailers pushing waste (and waste costs) as further donations due to a lack of clear government policies on retail waste management and redistribution.
- The lack of redistribution and re-provisioning policies amplified the conversion of food surpluses in the system to waste. A significant reason for this is the existing model of stock flows into major charities, which primarily operate bespoke franchises with inflexible operations management, warehousing, and logistics practices.

6.3. Recommendations

- Some UK charities with best-practice models were better able to adapt to the increased influx of customers and donations. However, targeted waste reduction policies should be collaboratively designed with donors, retailers, and producers to improve volume management and food redistribution logistics.
- The pandemic presents an opportunity to consider developing legislation/directives in consultation with major retailers, processors and charities to cap edible food waste by supermarkets and processors. The government could consider appropriate incentives (e.g. tax rebates) to enable the financing of sustainable redistribution logistics from stores to charities.

7. FOOD SUPPLY CHAIN LABOUR POLICY

7.1. Policy initiatives

- The UK meat sector is extremely labour intensive with a large number of workers working at close quarters – owing to the design of processing plants and high food safety standards (comprehensive set of official controls).
- The lockdown and social distancing guidelines resulted in sudden fluctuation in availability of labour for processing.
- Government's Corona Job Retention Scheme allows businesses to claim for 80% of their employee's wages plus any employer NI and pension contributions if employees are put on furlough.
- Employers with <250 employees can reclaim employees' coronavirus-related Statutory Sick Pay (SSP).
- The government advised sick workers to stay at home with a sick pay allowance of £94.25 a week.

7.2. Residual Labour Challenges

- Any infected workers could cause either partial or complete shutdown of shifts and/or may result in temporary loss of critical skills from the workforce for 14 days.
- Low Statutory Sick Pay (less than a quarter of average wages in the meat processing sector) could result in lack of transparency in the actual number of infected in the labour force (risk of virus spreading).
- Meat processors with >250 employees, facing challenges and operational losses due to labour shortages, are not currently covered under some government schemes.
- Labour shortage at farms and plants, affecting animal and bird welfare standards – workers @£9/hour do not feel incentivised enough to risk working in the sector.

7.3. Recommendations

- Statutory Sick Pay for people working in the meat sector and taking off due to COVID-19 (quarantine or self-isolation) should be increased and reimbursed for meat processors of all sizes – in order to encourage transparency and honesty in sick reporting.
- Bespoke furlough scheme for meat processors, allowing them to continue operations as per slaughter line requirements.
- Closer collaboration between FSA and meat processors to explore regulatory flexibility in low-risk areas (e.g. revising additional regulations that do not compromise food safety standards).
- Government could consider supporting large processors that are not covered under Business Interruption Insurance protection for losses or closure related to Covid-19
- Timely planning (immigration policy) for post Brexit scenario as 69% of meat sector workforces currently are from EU countries

8. FOOD SUPPLY CHAIN FINANCE

- The UK dairy and meat sectors are extremely price-sensitive. The sudden fluctuation in retailers' order schedules due to the lockdown led to large carcass imbalances and prime cuts being sold for a fraction of production costs as minced meat. Likewise, dairy producers were compelled to reduce production by 3% to mitigate production costs but at an estimated net loss of £11 to £18 per cow.
- Equity finance buffers against the COVID-19 disruption risk were minimised by the sectors' high asset intensity and risk-weight density.
- For the most part, income streams were constrained, as an estimated 55% of farmer's income is from subsidies like the Rural Development for England (RDPE) payments.

8.1. Policy Initiatives

- To mitigate some of these financial disruptions, the Bank of England, British Banks, and the HMRC put forward some respite schemes for farmers, processors, and retailers.
- Some examples include the Coronavirus Business Interruption Loan Scheme (CBILS) and Bounce Back Loans for small establishments, the COVID Corporate Financing Facility (CCFF), and the Coronavirus Large Business Interruption Loan Scheme (CLBILS) for investment-grade businesses. Other interventions include payment deferral schemes like the VAT deferral Scheme and business rates holidays to help ease cash flow constraints.
- The Coronavirus Act 2020 provides a moratorium on forfeiting commercial leases; however, there is no clarity as to whether it applies to farm or agricultural tenancies.

8.2. Residual Challenges

- While these schemes were considered as appropriate in terms of timeliness, our conversations with key industry practitioners unveiled two 'fitness for purpose' shortcomings in the government response. First, the production scale of the majority of UK farmers and processors lies at the intersection of the available schemes, which makes them either too large for CBILS or too small for CCFF.
- Secondly, the available financing schemes were not tailored to the sector's peculiar contracting structures (e.g. share farming contracts, "buy-in" "contract kill" or "toll processor" models for abattoirs). These structures exacerbate the difficulty of estimating long-term financial shortfalls for all parties (landowners, farmers, abattoirs).

8.3. Recommendations

- The sector's cash dependence requires robust financial interventions that account for farmers, processors and retailers' unique liquidity challenges and the magnitude and timing should be such that they alleviate both direct and indirect risk exposures of the sector.
- Agri input finance used to be quite competitive for UK financiers prior to the global financial crisis. With rekindled interest in this form of lending (new license approvals for agricultural banks e.g. Oxbury), the government could mediate financier-led consortia to develop competitive *disruption lending schemes* for UK food business operators.
- Such lending schemes would require critical data inputs from oversight agencies (e.g. Defra, AHDB), agri-business, insurance and finance stakeholders to adequately tailor future contingency lending to the industry's demand structure and price elasticities of demand.
- Alternative trade financing should be explored, such as bespoke finance options that reduce capital requirements (invoice factoring and forfeiting) and flexible repayment terms.