UNIVERSITY OF GLOUCESTERSHIRE

University of Southampton

Building a resilient broiler system

At the Tri-SoMe Chicken 'Trade-offs for a Resilient Boiler Sector' industry stakeholder event in Birmingham in October 2025, postdoctoral researchers Pippa Simmonds and Ali Parsa led an interactive workshop focused on the resilience of the UK broiler sector.

The workshop used a participatory approach known as group model building, designed to support the development of a quantitative system dynamics model of the broiler sector currently under construction. The aim was to bring together diverse forms of expertise to identify the key drivers, feedbacks, trade-offs, and potential leverage points that shape the sector's ability to absorb shocks, adapt to changes, and transform in ways that improve outcomes for people, broiler chickens, and the planet.

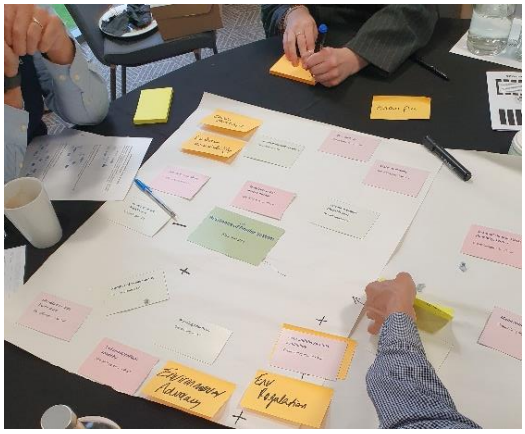

Photo: participants mapping sector drivers

Participants were divided into four pre-defined groups, each exploring resilience from a different perspective: economy, productivity and trade; animal welfare and production; environmental sustainability and circularity; and socio-political preferences and governance.

Each group worked with a small set of pre-prepared variables drawn from interviews and earlier research. These variables captured both ongoing system dynamics and external shocks; such as price volatility, trade barriers, and disease outbreaks. Participants were invited to refine and challenge the variables, add missing elements, and discuss how different factors interact over time.

With support from facilitators, groups then connected their variables to explore causal relationships and feedback loops: for example, between welfare standards and shed space availability, trade disruptions and affordability, or efficiency and redundant capacity. The exercise culminated in a plenary session where the different thematic clusters were brought together into a single, shared systems map of the broiler sector.

Photo: participants reviewing multiple dynamics

For many participants, this was their first encounter with systems mapping, and the process quickly revealed the complexity of the broiler system and the interdependence of economic, social, environmental, and biological factors. While challenging, the workshop generated valuable qualitative insights and highlighted areas of agreement, tension, and uncertainty across the sector. These outputs will directly inform the ongoing development of a comprehensive system dynamics model of UK broiler sector resilience, which will be used to explore future scenarios and assess how different interventions may strengthen or weaken the system under stress.

Future workshops will build on this foundation by engaging stakeholders with a more developed model, testing scenarios such as changes in welfare standards, market conditions, or socio-ecological constraints, and identifying leverage points where targeted action could have significant effects. If you would like to learn more about this work, contact Ali for a modelling perspective (a.a.parsa@soton.ac.uk) and/or Pippa for a social science perspective (psimmonds1@glos.ac.uk).

Photo: participants discussing sector drivers

Pippa Simmonds and Ali Parsa, 2025