Uses and abuses of farmers' emotional well-being: Policy story-lines and the politics of the rural

Gareth Enticott

School of Geography and Planning, Cardiff University, Cardiff, CF10 3WA, Wales, United Kingdom

A B S T R A C T

Using the concept of policy story-lines, this paper analyses the use of accounts of farmers' emotional well-being in policy disputes about the management of animal disease. Recent research on the emotional well-being of farmers in the face of climate change, market uncertainty and animal disease has sought to objectively assess its scale and extent. Studies of the policy process, however, suggest that discourses of farmer well-being can be put to use in policy argumentation by establishing story-lines that disrupt and challenge dominant policy perspectives. Using a case study from the United Kingdom, this paper analyses the use of a social impacts of animal disease story-line, the evidence used to construct the story-line, and its use in coupling policy problems and solutions. To do this, the paper analyses 24 years of elected politicians' speeches in two different government administrations. Firstly, the paper describes how the story-line was used in response to a competing story-line of 'sound science', and defines its core rhetorical components as: universal devastation, emotional trauma, helplessness, shared suffering, and regulative stress. Secondly, the paper shows how the story-line relies on spatially situated anecdote and 'proximate experience' – direct experience or the visiting and listening to farmers – rather than formal research. Thirdly, the paper shows how the story-line was used strategically to couple specific policy solutions to the problem of farmer well-being but was also captured to justify other solutions. The paper concludes by considering the wider implications of this story-line for the politics of the rural, farmer identity and the role of social research

1. Introduction

Recent studies have highlighted the impacts of animal disease to farmers' social and psychological well-being. Research into the management of exotic disease outbreaks has described the emotional consequences amongst farmers and agricultural communities arising from management practices such as emergency culling (Hood and Seedsman, 2004; Mort et al., 2005; Peck et al., 2002). Convery et al. (2005) connect these impacts to farmers' caring responsibilities to their stock, and how cattle are slaughtered at the wrong time and place. These forms of 'shared suffering' (Porcher, 2011) result in moral distress and moral injury to farmers and farm veterinarians whose job is to cull rather than cure (Doolan-Noble et al., 2023; Jaye et al., 2022). Importantly, studies show that socio-psychological impacts arise from the loss of the human-animal bond, as well as distant and bureaucratic management practices (Enticott, 2008; Noller et al., 2022). In doing so, these studies reflect broader scholarship concerning farmers' emotional and psychological well-being (Wheeler and Lobley, 2022; Wheeler et al., 2022) and in response to other crises (Rose et al., 2022), high rates of suicide in

farming (Bryant and Garnham, 2015; Chiswell, 2022) and the provision of appropriate mental health services for farmers (Nye et al., 2022, 2023).

Whilst these studies define farmers' emotional and mental well-being as an objective and measurable characteristic, the management of animal disease is a political act that is highly contested, with disputes over the way it intervenes in the socio-economic lives of farmers and other stakeholders. For example, farmers may contest the accuracy of diagnostic tests, or the value of financial compensation, whilst conservationists may argue against the role of wildlife culling implicated in the spread of zoonotic diseases. Social constructivist policy perspectives understand policy as the outcome of discursive argumentation and would instead conceptualise farmers' emotional well-being as a policy 'story-line' (Hajer, 1995) to (re)frame how animal disease should be understood, and couple policy problems with policy solutions (Kingdon, 2003). In this context, of interest is how farmers' emotional well-being acts as a resource to challenge dominant policy story-lines by different actors in the policy process as part of the activity of policy 'claims-making' (Spector and Kitsuse, 2001).

This paper therefore takes seriously the discursive construction of farmers' emotional well-being in debates over animal disease management policy. The paper does not seek to challenge the range of social impacts arising from the management of animal disease experienced by farmers. Rather, the aim is to show how the discursive construction of these social impacts reflects a politics of the rural that affects how diseases are managed. To do this, the paper analyses how farmers' emotional well-being has been used as a story-line in policy debates; the nature of evidence within it; and its socio-political implications over a 24-year period in relation to the management of one endemic animal disease in the United Kingdom.

2. Story-lines and the coupling of policy problems and solutions

In studies of public policy, social constructivist perspectives examine the processes in which issues are turned into problems worthy of political attention (Hilgartner and Bosk, 1988), and the coupling of problems with solutions (Kingdon, 2003). This literature directs attention to 'definitional activities' within the policy process, defined as "the activities of groups making assertions of grievances and claims to organisations agencies and institutions about some putative conditions" (Spector and Kitsuse, 2001). In agricultural policy, this may include those people who work in or represent farming (e.g. farming unions), special interest/professional groups (e.g. conservation groups, veterinary profession), politicians, the staff of government departments, researchers and scientists, and other private sector organisations. Kingdon (2003) suggests these actors can work as 'problem entrepreneurs' who play a key role in framing the definition of a problem, influence policy objectives and couple policy problems with solutions when opportunities arise. Jenkins-Smith and Sabatier (1994) suggest these and other actors work together forming 'advocacy coalitions', that define policy problems through collective strategizing to frame problems and solutions in particular ways. Advocacy coalitions are therefore organised around and seek to defend a set of core beliefs or worldviews, including core policy beliefs that describe the policy problem and possible solutions.

Although the advocacy coalition framework emphasises the role of shared beliefs, Hajer (1995) critiques it for failing to recognise how through argumentation, discourse actively creates the world rather than acts simply a means of communication. Thus, 'definitions of reality' are the result of 'a struggle for discursive hegemony' by actors seeking support for their worldview (p.59). In analysing this constructive role of discourse in environmental policy, Hajer develops the idea of discourse coalitions which articulate a particular world and policy view through what he calls 'story-lines'. For Hajer (p.56), story-lines are a "generative sort of narrative that allows actors to draw upon various discursive categories to give meaning to specific physical or social phenomena. The key function of story-lines is that they suggest unity in the bewildering variety of separate discursive component parts of a problem". In this sense, story-lines seek to create and maintain order in uncertain times, by specifying a dominant framing or understanding of a policy problem and a shared set of values and behaviours. Story-lines therefore reflect a 'short-hand construction' of policy aims and strategies.

Story-lines are not fixed or stable but are constantly negotiated and contested through discursive practices, such as framing, rhetoric, and narrative. When opportunities arise, new story-lines may intervene in dominant story-lines, disrupting what Baumgartner and Jones (1991) refer to as the 'policy equilibrium' such that policy options become more diverse or new solutions considered feasible and legitimate. The construction of story-lines may rely on specific discursive practices for the narrative framing to be successful. Hilgartner and Bosk (1988) for example suggest that successful claims-making activities present policy problems as dramatic, novel or culturally significant. Similarly, claims-making activities may rely on appeals to core values and identities, blaming others and outsiders, use of metaphors, and creating a sense of urgency (Spector and Kitsuse, 2001). These approaches may rely on rhetorical motifs and idioms, such as rhetorics of loss, unreason

and calamity, and military metaphors to imbue moral significance (Ibarra and Kitsuse, 1993; Larson et al., 2005). Recourse to science and evidence may also be used where it aligns with preferred policy solutions and political ideologies, often with the help of popular celebrities to promote science-based policies.

Analysis of story-lines should direct a focus to 'why a particular understanding of the […] problem at some point gains dominance and is seen as authoritative, while other understandings are discredited' (Hajer, 1995). In doing so, it should alert us to who – which coalition of groups and individuals – is seeking to preserve whose interests, but also the conditions in which the dominant framings of a policy problem can be reshaped through the addition of new story-lines. The extent to which story-lines lead to 'heterogenization' – an opening up of established discursive categories and the possibility of new courses of action – is therefore a key object of inquiry (Fischer, 2003). In this way, the analysis of story-lines has similarities with other traditions within political studies. In particular, rhetorical political analysis (RPA) focuses on the argumentation and reliance on different kinds of 'proof' in politicians' attempts to justify particular policies (Finlayson, 2004, 2007) and the extent to which styles of argumentation can constrain policy development as policy discourses become 'sticky' and hard to escape from (Grube, 2016). In doing so, RPA points to how styles of argumentation, such as the use of anecdote, reveal specific rhetorical cultures or traditions in policy story-making (Finlayson et al., 2023) which specify the rules by which policies should be assessed and proven (Atkins and Finlayson, 2012).

Analyses of story-lines is common within environmental sociology to understand how environmental policy is framed and constructed. Studies have therefore analysed story-lines and discursive practices used to construct frames of meaning for policy problems such as climate change, pollution, food and planning (Bulkeley, 2000; Ehgartner, 2020; Hurri, 2023; Matthews and Marston, 2019; Smith, 2000). Bulkeley (2000) for instance identifies 'scientific uncertainty' as a key story-line in the construction of climate policy promoted by resource-based coalitions to protect their interests. Meanwhile, Matthews and Marston (2019) identify seven specific story-lines that influenced Australian land-use planning sharing three environmental imperatives. Importantly, these story-lines emerged over time and were shaped by a range of different institutional actors as well as external events. Whilst analyses of Hajer's conceptualisation of story-lines is absent from studies of animal disease management, some studies have drawn on analogous literatures. Drawing on science and technology studies, Wilkinson (2011) describes the spatial and material 'modes of ordering' within animal disease policy that configure particular practices and ways of doing policy. Drawing on the policy studies literature, Ward et al. (2004) describe how solutions to foot and mouth disease reflected an agricultural framing and coupling of pre-defined agricultural solutions with problems. Enticott and Franklin (2009) show how the discourses of 'sound science' and partnership have been used to reterritorialize the governance of animal disease policy as well as privilege the role of certain kinds of scientists, veterinarians, and policy makers whilst excluding other groups, concerns and approaches. Finally, Cassidy (2012) examines the discursive framings of wildlife involved in zoonotic disease. However, despite the broader interest in farmers' emotional well-being there are no studies that examine either how it is constructed as a policy problem, or how discourses of farmer well-being are used as a story-line to influence or challenge dominant policy story-lines. The rest of this paper therefore examines how a social impacts of animal disease story-line in animal disease management developed over time, focussing on the use of specific rhetorical practices and forms of proof, and their coupling with specific policy options.

3. Methodology

Approaches to analysing the production and use of policy story-lines vary (Matthews and Marston, 2019), but all broadly rely on the

principles of interpretive policy analysis (Yanow, 2000). The following section describes the methical and analytical approach employed in studying the social impacts of animal disease story-line.

3.1. Case study: bovine tuberculosis

Whilst research has attended to the emotional impacts to farmers and vets from outbreaks of exotic disease (Convery et al., 2008; Noller et al., 2022), there is limited scholarship on the impacts of endemic disease. Whilst exotic diseases may be eradicated quickly, endemic animal diseases may take much longer and be subject to changing scientific advice, political ideology, and public opinion. As such, they can provide an insight into the development and advocacy of new policy story-lines, and how story-lines change over time. In the United Kingdom, the management of bovine tuberculosis (bTB) provides an ideal case study to investigate changes to policy story-lines. Whilst bTB has been a recognised problem in dairy and beef cattle since the early twentieth century, the last 50 years have been dominated by disputes over its transmission between wildlife (badgers – a protected species) and cattle (Cassidy, 2019; Grant, 2009). In 1997, a scientific study – known as the randomised badger culling trial (RBCT) – commenced to settle this policy dispute by examining the role of badger culling. In doing so, a new policy story-line based on 'sound science' was established that has dominated policy discussions since (Enticott, 2001). Whilst the aim of this story-line was to settle the policy dispute, instead it contributed to policy uncertainty: initially, studies suggested culling would not make a meaningful difference to cattle bTB (Independent Scientific Group, 2007), but more recent scientific analysis concluded differently (Brunton et al., 2017; Downs et al., 2019). During this time, disease incidence has risen significantly[1,2] raising concerns about farmers' well-being (Crimes and Enticott, 2019) and their engagement with disease prevention initiatives (Enticott, 2008). Importantly, animal disease policy for bTB is a devolved matter, providing the opportunity for different story-lines in the four administrations of the United Kingdom. This research focused on England and Wales as they have similar disease prevalence and institutional arrangements for the management of bTB.

3.2. Data collection

In England, policy is set by ministers of the Department of Environment, Food and Rural Affairs (Defra) based in London. In Wales, policy is set by the Welsh Government, based in Cardiff.[3] To identify how farmers' well-being features in story-lines of bTB, the records of parliamentary debates that discussed bTB were identified by searching the parliamentary archives in England and Wales. The search period covered 24 years, from when the Welsh Government was created in May 1999, until March 10th, 2023. These dates situate the research at the start of the new sound science story-line marked by the commencement of the RBCT and an absence of policy discussion about the social impacts of disease: the Government report (Krebs et al., 1997) that established the 'sound science' story-line conceptualises farmer impacts in economic terms, whilst socio-psychological impacts receive no attention.[4]

In England, Hansard provides the formal record of all business in the Houses of Parliament which is searchable online (https://hansard.parliament.uk/). Hansard was searched for mentions of "bovine tuberculosis" and "bovine TB" for both the House of Commons and House of Lords. Only items specifically marked as "debates" were included: oral questions, written answers to questions or the proceedings of scrutiny committees were excluded.[5] Debates were included where they had taken place in the Commons Chamber, Westminster Hall, or the Lords Chamber. Search results were downloaded in pdf format. One debate about bTB in lions was excluded as irrelevant. In Wales, elected politicians debate policy in the Senedd and a record archived online (https://senedd.wales/archive/). These records were searched in the same way as Hansard, focussing only on the spoken record in Plenary sessions (written and committee business were excluded). At the time of the research, transcripts of debates were only searchable online for the current and previous parliaments (from 2016 onwards). These results were saved in pdf format. For sessions of the Welsh Parliament prior to 2016, the transcripts of all plenary sessions were downloaded as pdf files. These were subsequently searched individually for mentions of "bovine tuberculosis" and/or "bovine TB" and included in the dataset. The final dataset contained 90 individual documents for England and 164 for Wales (see Table 1). All documents were imported into Nvivo release 1.6.2 for analysis. All datafiles are available on request.

3.3. Analysis

Analysis took place in two stages. Firstly, all documents were searched using keywords associated with social impacts of animal disease management. Search terms were informed by the literature and focused on key concepts or impacts of animal disease management, including: stress/distress, grief, misery, trauma, emotion, psychological, mental health, well-being and crisis (see Table 2). Additionally, documents were searched for all mentions of 'farm' or 'farmers'. Following initial coding of these social impacts of bTB, thematic codes were developed through in-depth reading of the transcripts. Two further layers of coding were developed: based on the coding of initial impacts, thematic codes relating to the nature of the evidence deployed in politician's talk about bTB were developed. Finally, thematic codes were developed to capture the way social impacts were coupled with policy solutions.

4. Farmers' well-being as a policy story-line in animal disease policy

The dominant story-line of bTB eradication since 1997 has implicated the use of 'sound science' as the most appropriate means to develop government policy. The analysis presented below, however, reveals how an alternative social impact story-line has been deployed in response to the policy implications of sound science to reframe animal disease policy. In essence, the story-line suggests that the impact to farmers' well-being from a bTB outbreak is so great that rather than relying on sound science, urgent action is required to prevent the transmission of bTB between wildlife and cattle. The following analysis begins by identifying how politicians constructed this story-line. It outlines what social impacts are implicated in the story-line; the rhetorical style and evidential basis of the story-line; before finally considering the policy implications of the story-line.

---

[1] In 2001, the trial and routine bTB disease surveillance was suspended by an outbreak of Foot and Mouth Disease, contributing to a significant rise of incidence on resumption of the disease surveillance programme (Godfray et al., 2018).

[2] Herd incidence was 2.5% nationally in 1999, rising to a peak of 11% in 2017. In regional disease hotspots, herd incidence 5% in 1999 and highest in 2017 at 19.8% (Defra, 2023).

[3] Although policy is devolved, Welsh Members of Parliament may still debate policy in the Houses of Parliament in England.

[4] The Krebs report (p.120) makes one mention that 'human welfare costs' are associated with bTB, but provides no details of what they are or recommendations about what to do about them.

[5] Select Committee proceedings were excluded because they provide a means to gather evidence by speaking to scientific experts and stakeholders, rather than opportunities for politicians to express their own views. However, debates about Select Committee reports on bTB are included in the analysis.

Table 1
Number of documents extracted using search terms "bovine tuberculosis" and "bovine TB" and social impact codes.

Year	Number of Documents Extracted			Number of social impact codes			Significant Events/Policy Timeline
	England	Wales	Total	England	Wales	Total	
1999	3	0	3	5	0	5	England: commencement of badger culling trials
2000	3	0	3	23	0	23	England: Agriculture Select Committee report into badger culling trials
2001	2	1	3	0	2	2	England and Wales: Foot and Mouth Outbreak
2002	6	4	10	16	3	19	England: re-commencement of Krebs Trials
2003	4	7	11	8	7	15	
2004	8	6	14	1	12	13	Wales: National Audit Office report on bTB policy
2005	1	4	5	0	1	1	
2006	4	9	13	1	4	5	Wales: plans to replace compensation regime debated
2007	6	11	17	2	3	5	England: publication of final report of badger culling trials
2008	4	12	16	7	9	16	England: plan to vaccinate badgers rather than cull badgers
2009	5	10	15	7	8	15	Wales: badger cull plans announced
2010	6	11	17	5	1	6	England: election of Conservative coalition-led Government
2011	6	17	23	18	10	28	Wales: scientific review announced of bTB policy
2012	3	17	20	12	11	23	England: plan to cull badgers. Wales: badger cull plan replaced by vaccination
2013	6	6	12	10	0	10	
2014	6	12	18	3	0	3	Wales: TB compensation review
2015	2	5	7	0	6	6	
2016	7	12	19	10	12	22	Wales: member debate on bTB
2017	1	6	7	6	0	6	
2018	1	1	2	1	0	1	
2019	1	3	4	10	0	10	England: badger culling debate prompted by public petition
2020	2	2	4	1	6	7	
2021	0	4	4	0	1	1	
2022	3	2	5	5	0	5	
2023	0	2	2	0	1	1	
Total	**90**	**164**	**254**	**151**	**97**	**248**	

Table 2
Analytical coding process.

Identification of social impacts	Thematic Coding		
	Social Impact Story-line	Evidencing Story-lines	Coupling Policy Story-lines
- Stress - Distress - Emotion - Psychological - Grief - Crisis - Misery - Pressure - Strain - Worry - Farm and farmers	- Devastation to livelihood - Emotional Trauma - Helplessness - Shared suffering - Regulative stress	- Proximate experience - Quantification - Stories from the field - Research and Science	- Defensive policy framing - Offensive entrepreneurship

4.1. Defining the social impacts story-line

The social impact story-line relied on five related discursive practices. Firstly, a rhetoric of *universal devastation* was used to summon the scale and significance of the impact of animal disease outbreaks to farming livelihoods. The most frequent adjective used by politicians in both administrations to describe the social impacts of bTB was '*devastating*'. bTB was described as inherently devastating; a 'horrible' disease whose social impacts were unquestionable:

"A positive result for a bovine TB test can be absolutely devastating for a farmer and a farming business, when a herd must be destroyed as a result, and we all well understand that" (William Powell (Liberal Democrat) November 25th 2015, Wales)

Universally, the effects of bTB were described as the cause of devasting social and economic problems, at a scale that should not be underestimated. Discourses of devastation to farmers livelihoods emphasised the need for an urgent response. Past disease outbreaks such as Foot and Mouth acted as comparators to emphasise the level of devastation. Thus, the devastation of bTB was felt by farmers and their families, but also whole rural communities and economies. Devastation was therefore connected to a rhetoric of loss, both of a 'whole way of life' and of individual livelihoods:

"At my many meetings with farmers in Devon the subject inevitably arises. There is both despair and anger about it. There is despair at the devastation that the presence of TB can inflict on a whole way of life" (Patrick Nicholls (Conservative), 10th February 2000, England)

Secondly, *devastation* was accompanied by a rhetoric of *emotional trauma*. A bTB outbreak was described as emotionally traumatic, in which the loss of cows was a 'heartache' that caused immense stress to farmers. Politicians connected this trauma to mental health problems, suicides and nervous breakdowns. Others used metaphor and personal experience to describe the 'pain', 'suffering', 'misery', 'crisis' and '(dis) stress' faced by farmers in living with bTB:

"I would challenge you that until you have stood next to the cattle crush as the beasts go through and the vets feel for reactors you have no idea at all what it is like to be in that position" (Kirsty Williams (Liberal Democrat), 21st June 2011, Wales)

"it is slow-burning and has a devastating impact on the farming families that are affected. One farmer told me that the impact of TB was like nursing a family member with a long-term fatal condition, when, in comparison, the impact of foot and mouth disease was like someone tragically dying in an accident" (Helen Mary Jones (Plaid Cymru) 9th December 2003, Wales)

Thirdly, connected to accounts of emotional trauma was a rhetoric of *helplessness*. Other accounts of farmers' biosecurity behaviour in relation to bTB have highlighted their lack of faith in regulations and beliefs in luck (Enticott, 2008). Politicians recounted similar stories, highlighting how farmers were 'desperate' for any help to save their livestock. This desperation could lead them to taking 'unilateral action' (i.e. illegal badger culling) to eliminate the perceived cause of their outbreak:

"Wherever I go in the country, there is talk about how helpless farmers feel and their threat—I shall use no stronger word—to take illegal action because they feel that nothing else is being done" (James Paice (Conservative), 10th February 2000, England)

Fourthly, descriptions of the slaughtering of animals emphasised farmers' attachment to animals such that loss was conceived as a '*shared suffering*' (Porcher, 2011). The pain of loss was particularly acute where farmers had spent years breeding and developing pedigree stock:

> "It caused great hardship for farming families who had invested a lot of effort and money into breeding cattle to see those cattle destroyed as a result of contracting TB" (Roger Williams (Liberal Democrat) 3rd July 2003, England)

As Convery et al. (2005) note about foot and mouth disease, the culling of diseased cattle creates inflicts moral injury because death takes places at the wrong time of life, denying a full productive life to livestock, and often in the wrong place – such as the farm rather than abattoir. The following vivid testimony lays bare this moral distress experienced by a farmer in witnessing the trauma of on-farm slaughter:

> "A farmer recounted to me the time they watched their heavily pregnant cow slaughtered on farm, using a 12-bore shotgun between the poor animal 's eyes, the trigger was pulled. Post death, the pregnant cow uncontrollably spasmed, destroying a heavy gate, the unborn calf writhing inside its dead mother's womb as it suffocated to death. It's something akin to watching someone die from poison, they said. It was horrendous to see and clearing up all the blood and smashed gate afterwards was just as punishing. That's how the farmer described it—no compassion for the cow, the calf, and certainly not for the farmer. 'Better I get more distressed than my cow', they add, 'I get to walk away from it, she doesn't; it's the least I can do.' This heavy mental burden is being put on our farmers, especially when it happens more than once. That farmer told me how three pregnant cows were shot, one after another. 'It just about killed me; I will never forget what I saw'—that's how they described it. In-womb TB transmission is rare, so why are these traumatic events allowed to happen?" (Samuel Kurtz (Conservative) 15th February 2023, Wales)

The final element of the social impact story-line was *regulatory stress*. It was not just the death of animals that was seen as traumatic, but the act of finding it. The process of diagnostic testing was described as stressful for both animals and farmers, whilst the three-day wait for results was a period of fear and anxiety:

> "I cannot think of any worse psychological experience than having to sit and wait for your next test—at best a rather rudimentary procedure—and then wait for your results to emerge. Those of us who are not in farming cannot understand that unpleasant experience, but we can at least sympathise" (David Drew (Labour) 10th February 2000, England)

Testing could also result in a 'wronged death', rather than simply death in the wrong place, adding to farmers' sense of moral injury and injustice. The fear of false positives and slaughter of apparently healthy animals added to the burden and anxiety already being faced by farmers. Regulatory stress was also associated with poor quality testing, defined as the ability of veterinarians to act with sympathy and care during a stressful period for farmers. Politicians therefore described a geography to testing in which vets could also be out of place, adding to farmers concerns. For example, where testing practices changed from the use of a farmers' own vet to one who was unknown and from outside their area, this added to their trauma:

> "That is a matter of concern to farmers because it adds to the trauma and difficulty of the whole testing regime when you are dealing with people who may be from well beyond your area" (William Powell (Liberal Democrat) 2nd November 2011, Wales)

4.2. Challenging the story-line

In both administrations there is little evidence of direct challenge to the social impacts of animal disease story-line. There are no instances of politicians challenging others to clarify or evidence others' assertions of claims, for example, of emotional trauma arising from bTB testing and the loss of animals. Similarly, the rhetoric of devastation leaves no room for nuance or variability: it is universal. There is no attempt to describe how some farmers or farming systems are more impacted than others within the story-line. Rather the story-line appears as a moral black box in which an outbreak of bTB has a predictable and incontrovertibly negative set of social circumstances that is more impenetrable to challenge than the 'sound science' storyline.

Nevertheless, the social impact story-line is more likely to be told in detail by politicians from rural constituencies, farming backgrounds and Conservative and Plaid Cymru politicians. In debates in the Senedd, there was some evidence of an alternative nuanced picture which was presented by a small minority of Labour politicians. These were particularly evident in debates about key changes to bTB policy such as financial compensation and wildlife control. Two discourses can be identified. Firstly, in some cases, farmers were blamed for causing their own bTB outbreak through poor farming practices. This rhetoric of blame was connected to a sense of fairness rather than entitlement. Thus, in debates about financial compensation, Labour politicians bemoaned how some farmers were benefitting from bTB at the expense of the taxpayer, and other farmers:

> "Here we go again— unhappy farmers. The taxpayers of Wales will be interested to know that, today, opposition members, including the independent Member for Wrexham, I believe, will be voting for farmers to continue to receive more" (Lorraine Barrett (Labour) 23rd May 2006, Wales)

> "Individual farmers tell me this; I forget the number of times that farmers have come to me and said, 'People are receiving more than their fair share in compensation for their animals'. Those farmers who are not dairy farmers also deserve some protection" Carwyn Jones (Labour) 23rd May 2006, Wales).

Secondly, fairness was also advocated in relation to wildlife policies too, with one Labour politician pointing out that the need to think about how badger culling policies could devastate other rural industries such as tourism:

> "In terms of your point about the devastation and the impact, it would be wise to think about the devastation and the impact on the wider community, because I have also had e-mails telling me that people will not come to Pembrokeshire to holiday because they do not want to be part of the ugly scene that they expect to see there" (Joyce Watson (Labour) 4th November 2011, Wales).

4.3. Evidencing the story-line

The social impact story-line seeks to fracture the dominant 'sound science' policy story-line and insert alternative policy choices and actions. To do so it relies on a specific arrangement of evidence that is culturally and physically distant from the 'sound science' discourse and traditional veterinary management. Rather than science and statistics, the story-line relies on emotional storytelling and '*proximal experience*' in which anecdote and what Atkins and Finlayson (2012) refer to as 'everyday knowledge' structure political argumentation. In this argumentative style, formal evidence – whether it is quantitative or qualitative – is displaced by anecdote that is geographically situated. Thus, within the discourses of devastation and emotional trauma there are few attempts to present these story-lines within a technical discourse of mental health by referring to different classifications or conceptualisations of, for example, subjective well-being, psychological morbidity and/or generalised anxiety disorder common to research on farmer mental health (Chiswell, 2022). Similarly, whilst discourses of emotional trauma include references to farming having the highest

occupational suicide rate, they were rarely grounded in official statistics nor are sources cited. For example:

> "Does the Minister appreciate the strain that farmers are under when they are losing cattle that they have bred over many years? It is causing suicides and nervous breakdowns all over the place, as far as I can make out" (The Countess of Mar (Crossbench), 20th December 2004, England)

Indeed, there are few attempts to refer explicitly to scientific studies when describing the devastation of the social impacts of bTB, the exception being four references to a study completed by a farming charity:

> "The Farm Crisis Network highlighted in its most recent report from 2009, the existence of bovine TB is causing enormous distress to farmers and their families, with 20% of those interviewed admitting that they were either panicked or devastated by the news of the latest outbreak. A further 50% were deeply worried by the news. Farmers' reactions ranged between feeling the pressure but coping through to actual physical illness caused by the stress and associated worry of this devastating pestilence" (William Powell (Liberal Democrat) 12th March 2012, Wales)

This quotation is interesting for its attempt to quantify the scale of the social impacts of animal disease. Elsewhere there is plenty of evidence of politicians attempting to quantify the scale of the spread of bTB using epidemiological data, and the cost to the taxpayer using government expenditure data. However, just like evidence of the mental health impacts, quantification of the economic costs to farmers rarely drew on published academic studies. One reason for this lack of quantification was a belief that the social impacts of bTB represented a problem that was beyond quantification, and too difficult to understand or represent in simple terms:

> "those statistics can never fully describe the financial and emotional toll on farmers and their families from the impact and threat of bovine TB, which cannot be overstated" (Fiona Bruce (Conservative) 23rd October 2019, England)

Instead, the social impact story-line was evidenced through a reliance on emotional storytelling. Accounts, both short and long, of conversations between politicians and farmers were central to this style of argumentation. Short accounts relied on named farmers, and a brief description of their circumstances. Longer accounts provided an opportunity to demonstrate the extent to which the anguish of bTB was shared throughout a community. The following account told by a Cornish MP is an exemplar of this emotionally driven genre of evidential story-telling:

> "Three years ago I had the honour of being the mayor of my home-town of St Austell, and one evening I went to visit the local sea cadets. I will never forget that memorable evening, because at the end of the evening, as I usually did, I asked the young people what they would like to see in our town that would make it a better place. I got all the usual answers—better shops, better leisure facilities, a skateboard park—and then one young man standing in front of me, who was about 12 years old, leant forward and said, "A badger cull." I figured out very quickly that he was clearly a farmer's son. The point that I want to make is that this debate is about people; it is about the livelihood and well-being of beef and dairy farmers in this country. We must never lose sight of the fact that as we debate Britain's biggest rodent, we are actually talking about the livelihoods of our farmers. Let us be clear that every time cattle are tested, our dairy farmers go through anguish. They stand there watching the test take place, not knowing whether this time it is going to be positive, and then many of them have to watch as their life's work is destroyed as a result of a positive test" (Steve Double (Conservative) 7th September 2016, England)

These stories highlight the importance of what can be called 'proximate experience' to the social impact story-line. This refers to how the story-line implies that understanding of the social impacts of bTB can only be achieved by 'proximate learning': visiting, listening to and speaking with those who were affected. This strategy is particularly evident in the stories of 'shared suffering' in which the emotional impacts of constituents being affected by bTB also affected politicians, as they sat tearfully around farmhouse kitchens whilst cattle were slaughtered. In this sense, knowledge of the social impacts could only be relayed in situ, reflecting the point that social impacts defied formal quantification. As the quote above shows, proximal learning often takes place during constituency activities. The telling of these stories allows politicians to stake their legitimacy: being embedded in place and being of the countryside provides status and access to the realities of bTB that politicians from urban constituencies noticeably defer to. These spatially embedded anecdotes therefore reveal a coalition of rural politicians, who collectively share understandings of the devastation of bTB to farmers by virtue of their embeddedness in the countryside:

> "My eldest son … began his career [by] going out and ordering the destruction of thousands of cattle. He watched grown men, maybe twice or three times his age, burst into tears as he gave them the verdict. You and I know, Mr Streeter—*you are from Devon*—because we have seen those piles of carcases in flames, and it is not a pretty sight" (Sir Roger Gale (Conservative) 27th March 2017, England. Emphasis added.)[6]

> "*We know* the destructive impact that TB is having economically on farm families and businesses and on communities. It's also having a detrimental emotional effect on individuals in destroying generations of work in developing pedigree and quality stock. I don't need to paint that picture, but I am concerned sometimes that we are desensitised, particularly if we as politicians aren't close to some of these communities and individuals who are affected" (Llyr Gruffydd (Plaid Cymru) 28th September 2016, Wales. Emphasis added.)

In the same way, claims of the social impacts of bTB were legitimised by reliance on evidence from '*proximal leaders*'. Politicians cited accounts of farmer hardship provided by local agricultural leaders and farming union representatives. Others cited their work of engaging with the agricultural community, its leaders and attendance of their events to recognise their understanding of these social impacts. Similarly, others pointed to visits they had made to the countryside to meet farmers and agricultural leaders to understand the social impacts of bTB.

4.4. Coupling policy solutions to the social impact story-line

The development of the social impact story-line is connected to specific policy priorities within the management of bTB. These are transparent in the way policy options are explicitly coupled with policy choices, or strategies of making policy. This is evident in the way the story-line is deployed in policy debates: firstly, a *defensive justification of policy* that is characterised by a sympathetic acknowledgement of the social impacts of bTB; and secondly, an *offensive entrepreneurship* that uses the story-line to make alternative policies appear irresistible. This oppositional framing reflects the (largely) two party system at Westminster and the Senedd, and how different parties ideologically sit in relation to badger culling to prevent bTB.[7] Defensive uses of the social impact story-line are associated with claims of legitimacy by urban

---

[6] The county of Devon in south-west England has consistently had one of the highest incidence rates of bTB.

[7] In England, with some exceptions, Labour politicians have argued against a badger cull, Conservative and Liberal Democrats for a cull. In Wales, Labour politicians have argued against, and all other parties, including the nationalist Plaid Cymru, for a cull. Between 2007 and 11 a Labour-Plaid Cymru coalition government supported a badger culling policy in Wales.

politicians. At the same time, it also enacts a specific version of policy making of centralised control and government paternalism. The defensive strategy is also most evident at times of significant policy change and appears to have become more frequently deployed over time. In Wales, for example, the Minister for Agriculture opened his speech announcing the cancelling of a badger culling programme using the language and evidence of the social impact story-line:

> "Bovine tuberculosis has a significant financial and social impact on farmers and the wider community in Wales. I have visited and spoken to a number of cattle-farming families across Wales. I know from listening just how difficult it is and how the consequences can be devastating" (John Griffiths (Labour) 20ᵗʰ March 2012, Wales).

By contrast, *offensive entrepreneurship* reflects Kingdon's (2003) notion of problem entrepreneurship in which the social impact story-line is used to justify calls for policies of badger culling. This problem-policy coupling is set within an overtly emotional framing: it emphasises a duty of care for the well-being of farmers and anger towards the government for failing to protect them from their fate. The first example of this coupling is in England in 2000 in relation to the conduct of the proposed scientific trials that had been significantly delayed. Here, politicians expressed hope that the on-going scientific study would not just find the appropriate policy solution, but also the trials themselves would provide some relief to farmers. The subsequent failure of the trials to provide unambiguous support for badger culling, the pursuit of alternative policies and a steep increase in bTB incidence has reinforced the framing of bTB policy as a matter of resolving farmer well-being. Thus, the emotional driven narratives of farmer suffering conclude with a call for badger culling as a means to reduce the burden on farmers. In the case of the story told by the Cornish MP above, his story therefore concluded thus:

> "We must never lose sight of the fact that at the heart of this debate is our local farming community. I have spoken to many beef and dairy farmers in my constituency, and every one of them has told me that they are convinced we need to control the badger population to eradicate this disease" (Steve Double (Conservative) 7ᵗʰ September 2016, England).

In Wales, this framing has been associated with the opposition to Labour bTB policy since the advent of devolution: the first mention of bTB in the Senedd in 2001 explicitly connected farmer well-being to the need for a badger cull:

> "you must be aware of the grief caused to farmers when TB strikes their herds. A lifetime's work may be destroyed. Can you provide hope for farmers in Gwent and throughout Wales by announcing an effective badger population control strategy?" (William Graham (Conservative) 25ᵗʰ January 2001, Wales)

Since then, policy changes that have seen the promise of a badger cull appear during a coalition-led government only to be withdrawn by a Labour Government at the next election, promoting anger amongst opposition politicians:

> "farmers have been severely let down by your Government. You are failing to allow them to protect their cattle from TB infection. Do you agree with me that farmers will now have to consider how best to protect their cattle? I, for one, would not blame them however they choose to do that" (Elin Jones (Plaid Cymru) 20ᵗʰ March 2012, Wales)

A similar connection between farmer well-being and bTB policy is made in relation to attempts to restructure compensation payments to affected farmers. Here, the loss of compensation is seen to worsen farmers' ability to maintain their livelihood.

The coupling of the social impact story-line with badger culling policies, however, also appears to side-line other policy initiatives that may benefit farmers' well-being. Specifically, claims of poor farmer well-being are rarely connected to the need for funding of support and advisory services that could help farmers manage the social and economic consequences of bTB. In England, the dataset contains two references to supporting farmer advisory services, and in Wales only one explicit reference for funding counselling services. In fact, Welsh politicians have argued that it would be inappropriate to provide some kinds of information to farmers to help them manage a bTB outbreak because it could stigmatise some farmers, worsening their mental health (Russell George (Conservative) 25th November 2015, Wales).

Finally, the social impact story-line also serves to support specific identities and approaches to government, specifically to defend rural traditions and the expertise of farmers to govern nature effectively. As illustrated in the previous section, the reliance on proximal learning to evidence claims of social impact emphasises the role of rural experts and expertise, or 'the countryman' as one MP pointed out. In this discourse, farmers, their leaders and associated disciplines, should be trusted to speak the truth about bTB for it is they that are closest to it. Distant forms of knowledge, such as science, provide less insight as farmers 'do not see this problem as scientists see it' because they 'are concerned with the welfare of animals and they do not want to see their herds suffering' (Lord Plumb (Conservative), 23rd October 2012, England). This political framing of the social impact story-line enacts a rural-urban division in which urban dwellers are unable to appreciate the impacts of animal disease because they are physically and culturally removed from the modern realities of farming and rural life:

> "The politicians are reluctant to talk in public about a process that could lead to the death of badgers. The British population, brought up on "Tales of the Riverbank" in an increasingly urban age, do not want to contemplate that. Farmers are therefore desperate about the effect on their livelihoods and about the beliefs of an urban population who simply refuse to face up to what is happening" (Patrick Nicholls (Conservative) 10ᵗʰ February 2000, England).

5. Policy story-lines and the politics of the rural

By following the deployment of the social impact story-line, this paper has sought to show how farmers' emotional well-being is put to use within policy debates to challenge dominant policy story-lines and couplings of problems and solutions. To be clear, this analysis does not deny the impacts of animal disease to farmers' emotional well-being documented by farmers themselves in the agricultural press or farmers' use of social media (cf. Riley and Robertson, 2021). However, the analysis shows that farmers' emotional well-being can be understood as a rhetorical construction that is performed through a specific style of story-telling. In this way, an analysis of policy story-lines contributes to understandings of rural space as a construction of emotional (Woods et al., 2012) and competing discourses (Halfacree, 2006). The social impact story-line therefore enacts a politics of the rural that seeks to preserve a particular way of rural life (Woods, 2012), reifying a division between rural space and the right to speak for and of it. The use of spatially specific anecdote and discourses of 'proximate experience' therefore presents a politics of the rural that specifies how animal disease should be managed and who has legitimate expertise to do it. Thus, the story-line represents a means to challenge the 'discursive stickiness' (Grube, 2016) of 'sound science' that threatens long-held beliefs about the coupling of wildlife culling and disease control policy. Previous analyses of the epistemological styles of veterinary animal disease management have shown how they are tied to political preferences for styles of governing, and marginalise traditional, local and situated forms of veterinary expertise (Bickerstaff and Simmons, 2004). But, by focussing on discourses of social impacts, this paper takes the implications of this marginalisation further, showing how it is accounts of social impacts rather than disputes between veterinary and scientific knowledges that are used to challenge the practices of disease control.

At the same time, analysis of policy story-lines reveals tensions

between their implicit and explicit arguments. On the one hand, the explicit aim of the social impact story-line is not to seek new problem-solution couplings but preserve traditional beliefs about disease control and a politics of disease control in the face of the sound science story-line. Indeed, these politics are reinforced by the story-line's silence on solutions to farmers' well-being other than through badger culling and failing to champion solutions such as the funding of emotional support services for farmers. Neither does it make explicit calls for reforms to the governance of animal disease, or the very need for state intervention in bTB (cf. Torgerson and Torgerson, 2010), contradicting how the story-line positions the bureaucracy of disease regulation – rather than the disease itself – as a primary cause of farmer distress (cf. Jaye et al., 2021). Implicitly, however, the use of the story-line points to a form of defensive localism (Winter, 2003) in which 'offensive entrepreneurship' argues for the primacy of lived experience in animal disease policy, and against distant forms of governance and technocratic or scientific modes of ordering rural space. In doing so, the urban is othered as a space and people that cannot understand the suffering experienced by farmers of losing their cattle to disease. The story-line valorises rural knowledge and the role of 'proximate experience' in providing contextual forms of expertise that understand local ecologies of place and their contribution to disease transmission. Implicitly, the story-line therefore calls for greater devolution of decision-making powers to rural people – specifically farmers – to govern their own lives. Whilst this reflects wider beliefs within farming identities about the place of regulation and bureaucracy (Silvasti, 2003), it also points to other hidden dimensions to farmer identity. Thus, the description of a 'shared suffering' by farmers and their livestock places emotions, care and loss as central to the experience of farming. The story-line therefore normalises these experiences, that makes emotional behaviour, vulnerability and suffering as much a part of a 'good farming' identity as discourses of outdoor physical hard work (Burton et al., 2021).

Furthermore, the analysis also shows evidence of 'story-line capture' as competing politicians seek to control the dominant policy story-line and minimise alternative framings and couplings. The social impact story-line becomes useful for politicians refusing to couple badger culling with disease control policy. Acknowledging the social impacts is useful for it demonstrates sympathy and an understanding of farmers' lived experience of bTB and overcomes their lack of 'proximate experience' and ability to recount spatially situated anecdotes. The consequence of these attempts to capture the story-line, however, is that it becomes ubiquitous to all groups involved the policy process. The danger for farmers is that the story-line loses its significance and power, becoming a taken for granted discourse that becomes easily ignored, such as what has befallen other discourses central to environmental policy, such as sustainable development (Fischer, 2003). Indeed, the policy impact of the social impact story-line is unclear: policy approaches have diverged between the two administrations with a badger culling policy in England but not Wales.

For rural and agricultural scholars, the forms of proof used in the social impacts story-line raise questions about the role of research into farmers' mental health and well-being. In seeking to evidence the social impact story-line there were few attempts to quantify these claims using statistics or research findings, instead preferring to rely on personal accounts of 'proximate experience'. This may be due to a lack of academic research; a gap academics could fill. In particular, social research could seek to break down the universal claims of 'devastation' as a way of identifying a fairer support system for farmers: which types of farmers experience most distress from animal disease; what are the systemic causes to these social impacts; and what forms of support work best for whom are legitimate questions to pursue. This is important because as other disease eradication programs have shown, social impacts exist at all stages of eradication with the final stages often the most brutal of all (Lehane, 1996). All actors involved in this policy dispute could also commission their own research to fully evidence the story-line. The fact that this has not happened, however, signals a lack of commitment to the

story-line or a strategic use of evidence by those within the policy making process (Geddes, 2021; Rose et al., 2020). Alternatively, the failure to commission robust academic research further highlights the existence of different knowledge cultures with their own styles of argumentation in this policy dispute.[8] This implies the need for academic researchers to produce different kinds of evidence that rely less on quantification and instead develop methods that engage with these preferences for story-telling. This might include the use of digital, video and photo elicitation (Hurworth et al., 2005), mobile methods such as walking interviews (Evans and Jones, 2011), and/or drawing (Bagnoli, 2009) and mapping (Chan and Enticott, 2023), and other creative methods (Mannay et al., 2017). This may also generate possibilities for the democratisation of social research in which farmers use academic methods to produce research themselves.

Finally, further research is required to understand the development and use of the social impact story-line. Firstly, it is not precisely clear when the story-line emerged. Whilst this paper does not examine the social impact story-line prior to 1999, the official documents of the time do not construct it as an issue of concern. It is also significant that the use of the social impact story-line pre-dates both the significant increase in disease incidence over the research period, but also the events of the FMD outbreak in 2001 that brought wider attention to the social impact of animal disease (Convery et al., 2008). Establishing its absence in the rhetorical claims of politicians and others prior to the sound-science storyline would indicate that it played a key role in rupturing the 'policy equilibrium' (Baumgartner and Jones, 1993) to allow the social impacts story-line to emerge as a competing and compelling story-line. Secondly, the focus in this paper has been on politicians, but who else was involved in establishing the social impacts story-line is not clear, or how it is used by other actors in this policy dispute. Historically, there have been close links between Conservative politicians and agriculture at local and national scales (Woods, 1998). The story-line may be the result of these links,[9] or politicians own experiences as farmers and landowners. Indeed, in deploying the social impacts story-line politicians frequently declared their farmer status as part of their accounts of 'proximate experience'. Whilst further research could address the links between these actors in unpacking the genesis of the story-line, it could also focus on other actors not captured in the story-line and other harms arising from the management of animal disease. For example, Doolan-Noble et al. (2023) highlight the moral distress of veterinarians in disease eradication. However, these actors' experiences as well as others such as civil servants responsible for policy implementation were absent from politicians' accounts of the social impacts of bTB. Further research on the links between different actors in the story-line and the composition of its coalition of actors can assist understanding the politics of this story-line and explain why some actors and the harms they experience are included or remain silent.

6. Conclusion

Farmers' mental health and emotional well-being is a concern for policy makers, the agricultural industry and rural scholars. Rather than seek to measure the scale or extent of farmers' well-being in animal disease, this paper uses concepts from policy studies to examine how the discourse of farmer well-being has been deployed in policy disputes. Using Hajer's (1995) concept of policy story-lines, the paper explores how in arguments over animal disease policy, farmers' emotional well-being has become a key story-line with which politicians have sought to challenge and defend animal disease policy. In doing so, the

---

[8] Since 1999, Defra and the Welsh Government have commissioned one research project each examining the social impacts of bTB.

[9] In 2023, the register of interests for members of parliament shows that 7% of Conservatives have links to agriculture, which includes previous and current Secretaries of State and Ministers within Defra.

paper shows how spatially specific anecdote and '*proximate experience*' – sharing farmers' suffering by visiting and listening to farmers – is crucial to establishing the story-line as well as providing legitimacy to its advocates. The evidence used in the story-line challenges the status of academic research into farmers' well-being and suggests the need for methodological innovation. This analysis also provides insights into the construction of rural space and identity, and the politics of the rural. Critically, it shows that the discourse of farmer well-being is not neutral, and vulnerable to capturing to justify policy approaches. This politics of the rural has potential to have wider consequences to farmer well-being. Thus, further attention should be paid to how farmer well-being story-lines may be present in other agricultural policy debates. Doing so will provide a greater understanding of what constitutes farmer well-being, how it is constructed and put to work, as well as monitor the dangers of ubiquity and capturing by competing interests in ways that constrain rather than enhance farmer well-being.

Ethics statement

The paper uses speeches made in public by politicians that are recorded in open access parliamentary archives.

CRediT authorship contribution statement

Gareth Enticott: Conceptualization, Methodology, Formal analysis, Investigation, Formal analysis, Writing - original draft, Writing - review & editing.

Declaration of competing interest

The author is a member of the Bovine Tuberculosis Partnership for England.

Data availability

Data will be made available on request.

Acknowledgements

I am grateful to Simon Rolfe for comments on this paper.

References

Atkins, J., Finlayson, A., 2012. '… A 40-year-old black man made the point to Me': everyday knowledge and the performance of leadership in contemporary British politics. Polit. Stud. 61, 161–177.

Bagnoli, A., 2009. Beyond the standard interview: the use of graphic elicitation and arts-based methods. Qual. Res. 9, 547–570.

Baumgartner, F., Jones, B., 1991. Agenda dynamics and policy subsystems. J. Polit. 53, 1044–1074.

Baumgartner, F., Jones, B., 1993. Agendas and Instability in American Politics. University of Chicago Press, Chicago.

Bickerstaff, K., Simmons, P., 2004. The right tool for the job? Modeling, spatial relationships, and styles of scientific practice in the UK foot and mouth crisis. Environ. Plann. Soc. Space 22, 393–412.

Brunton, L.A., Donnelly, C.A., O'Connor, H., Prosser, A., Ashfield, S., Ashton, A., Upton, P., Mitchell, A., Goodchild, A.V., Parry, J.E., Downs, S.H., 2017. Assessing the effects of the first 2 years of industry-led badger culling in England on the incidence of bovine tuberculosis in cattle in 2013–2015. Ecol. Evol. 7, 7213–7230.

Bryant, L., Garnham, B., 2015. The fallen hero: masculinity, shame and farmer suicide in Australia. Gend. Place Cult. 22, 67–82.

Bulkeley, H., 2000. Discourse coalitions and the Australian climate change policy Network. Environ. Plann. C Govern. Pol. 18, 727–748.

Burton, R.J.F., Forney, J., Stock, P., Sutherland, L.A., 2021. The Good Farmer: Culture and Identity in Food and Agriculture. Routledge, London.

Cassidy, A., 2012. Vermin, victims and disease: UK framings of badgers in and beyond the bovine TB controversy. Sociol. Rural. 52, 192–214.

Cassidy, A., 2019. Vermin, Victims and Disease. British Debates over Bovine Tuberculosis and Badgers. Palgrave Macmillan, London.

Chan, K.W., Enticott, G., 2023. Good methods for good farmers? Mapping the language of good farming with "diligent farmers" in Hong Kong. J. Rural Stud. 100, 103005.

Chiswell, H., 2022. Psychological morbidity in the farming community: a literature review. J. Agromed. 1–26.

Convery, I., Bailey, C., Mort, M., Baxter, J., 2005. Death in the wrong place? Emotional geographies of the UK 2001 foot and mouth disease epidemic. J. Rural Stud. 21, 99–109.

Convery, I., Mort, M., Baxter, J., Bailey, C., 2008. Animal Disease and Human Trauma: Emotional Geographies of Disaster. Palgrave Macmillan, London.

Crimes, D., Enticott, G., 2019. Assessing the social and psychological impacts of endemic animal disease amongst farmers. Front. Vet. Sci. 6, 342.

Defra, 2023. Tuberculosis (TB) in Cattle in Great Britain. https://www.gov.uk/government/statistical-data-sets/tuberculosis-tb-in-cattle-in-great-britain.

Doolan-Noble, F., Noller, G., Jaye, C., Bryan, M., 2023. Moral distress in rural veterinarians as an outcome of the Mycoplasma bovis incursion in southern New Zealand. N. Z. Vet. J. 1–12.

Downs, S.H., Prosser, A., Ashton, A., Ashfield, S., Brunton, L.A., Brouwer, A., Upton, P., Robertson, A., Donnelly, C.A., Parry, J.E., 2019. Assessing effects from four years of industry-led badger culling in England on the incidence of bovine tuberculosis in cattle, 2013–2017. Sci. Rep. 9, 14666.

Ehgartner, U., 2020. The discursive framework of sustainability in UK food policy: the marginalised environmental dimension. J. Environ. Pol. Plann. 22, 473–485.

Enticott, G., 2001. Calculating nature: the case of badgers, bovine tuberculosis and cattle. J. Rural Stud. 17, 149–164.

Enticott, G., 2008. The ecological paradox: social and natural consequences of the geographies of animal health promotion. Trans. Inst. Br. Geogr. 33, 433–446.

Enticott, G., Franklin, A., 2009. Biosecurity, expertise and the institutional void: the case of bovine tuberculosis. Sociol. Rural. 49, 375–393.

Evans, J., Jones, P., 2011. The walking interview: Methodology, mobility and place. Appl. Geogr. 31, 849–858.

Finlayson, A., 2004. Political science, political ideas and rhetoric. Econ. Soc. 33, 528–549.

Finlayson, A., 2007. From beliefs to arguments: interpretive methodology and rhetorical political analysis. Br. J. Polit. Int. Relat. 9, 545–563.

Finlayson, A., Jarvis, L., Lister, M., 2023. COVID-19 and 'the public': U.K. government, discourse and the British Political Tradition. Contemp. Polit. 1–18.

Fischer, F., 2003. In: Fischer, F. (Ed.), Discourse versus advocacy coalitions: interpreting policy change and learning, Reframing Public Policy: Discursive Politics and Deliberative Practices. Oxford University Press, Oxford.

Geddes, M., 2021. The webs of belief around 'evidence' in legislatures: the case of select committees in the UK House of Commons. Publ. Adm. 99, 40–54.

Godfray, C., Donnelly, C.A., Hewinson, G., Winter, M., Wood, J.L.N., 2018. Bovine TB Strategy Review. Defra, London.

Grant, W., 2009. Intractable policy failure: the case of bovine TB and badgers. Br. J. Polit. Int. Relat. 11, 557–573.

Grube, D.C., 2016. Sticky words? Towards a theory of rhetorical path dependency. Aust. J. Polit. Sci. 51, 530–545.

Hajer, M., 1995. The Politics of Environmental Discourse: Ecological Modernization and the Policy Process. Clarendon Press, Oxford.

Halfacree, K., 2006. In: Cloke, P., Marsden, T., Mooney, P. (Eds.), Rural space: constructing a three-fold architecture, The Handbook of Rural Studies. Blackwell, Oxford, pp. 44–62.

Hilgartner, S., Bosk, C.L., 1988. The rise and fall of social problems: a public arenas model. J. Sociol. 94, 53–78.

Hood, B., Seedsman, T., 2004. Psychosocial investigation of individual and community responses to the experience of Ovine Johne's Disease in rural Victoria. Aust. J. Rural Health 12, 54–60.

Hurri, K., 2023. Climate Leadership through Storylines: A Comparison of Developed and Emerging Countries in the Post-Paris Era. Global Society, pp. 1–22.

Hurworth, R., Clark, E., Martin, J., Thomsen, S., 2005. The use of photo-interviewing: three examples from health evaluation and research. Eval. J. Australas. 4, 52–62.

Ibarra, P., Kitsuse, J., 1993. In: Miller, G., Holstein, J.A. (Eds.), Vernacular constituents of moral discourse: an interactionist proposal for the study of social problems, Reconsidering Social Constructionism. Routledge, London, pp. 25–58.

Independent Scientific Group, 2007. Bovine Tuberculosis: the Scientific Evidence. Defra, London.

Jaye, C., Noller, G., Bryan, M., Doolan-Noble, F., 2021. "No better or worse off": Mycoplasma bovis, farmers and bureaucracy. J. Rural Stud. 88, 40–49.

Jaye, C., Noller, G., Bryan, M., Doolan-Noble, F., 2022. 'The day I killed my cows was the day I walked away': Mycoplasma bovis, moral economy and moral capital. J. Rural Stud. 95, 86–94.

Jenkins-Smith, H.C., Sabatier, P.A., 1994. Evaluating the advocacy coalition framework. J. Publ. Pol. 14, 175–203.

Kingdon, J.W., 2003. Agendas, Alternatives and Public Policies, second ed. Longman, New York.

Krebs, J., Anderson, R., Clutton-Brock, T., Morrison, I., Young, D., Donnelly, C., 1997. Bovine Tuberculosis in Cattle and Badgers. Ministry of Agriculture, Fisheries and Food, London.

Larson, B.M.H., Nerlich, B., Wallis, P., 2005. Metaphors and biorisks: the war on infectious diseases and invasive species. Sci. Commun. 26, 243–268.

Lehane, R., 1996. Beating the odds in a big country. The Eradication of Bovine Brucellosis and Tuberculosis in Australia. CSIRO, Collingwood, Australia.

Mannay, D., Staples, E., Edwards, V., 2017. Visual methodologies, sand and psychoanalysis: employing creative participatory techniques to explore the educational experiences of mature students and children in care. Vis. Stud. 32, 345–358.

Matthews, T., Marston, G., 2019. How environmental storylines shaped regional planning policies in South East Queensland, Australia: a long-term analysis. Land Use Pol. 85, 476–484.

Mort, M., Convery, I., Baxter, J., Bailey, C., 2005. Psychosocial effects of the 2001 UK foot and mouth disease epidemic in a rural population: qualitative diary based study. BMJ:bmj;bmj.38603.375856.68v1.

Noller, G., Doolan-Noble, F., Jaye, C., Bryan, M., 2022. The psychosocial impact of Mycoplasma bovis on southern New Zealand farmers: the human cost of managing an exotic animal disease incursion. J. Rural Stud. 95, 458–466.

Nye, C., Winter, M., Lobley, M., 2022. The role of the livestock auction mart in promoting help-seeking behavior change among farmers in the UK. BMC Publ. Health 22, 1581.

Nye, C., Winter, M., Lobley, M., 2023. Farmers supporting farmers: livestock auctions as spaces to reconstruct occupational community and counter mental health issues. J. Agromed. 28, 401–414.

Peck, D.F., Grant, S., McArthur, W., Godden, D., 2002. Psychological impact of foot-and-mouth disease on farmers. J. Ment. Health 11, 523–531.

Porcher, J., 2011. The relationship between workers and animals in the pork industry: a shared suffering. J. Agric. Environ. Ethics 24, 3–17.

Riley, M., Robertson, B., 2021. #farming365 – exploring farmers' social media use and the (re)presentation of farming lives. J. Rural Stud. 87, 99–111.

Rose, D.C., Kenny, C., Hobbs, A., Tyler, C., 2020. Improving the use of evidence in legislatures: the case of the UK Parliament. Evid. Policy 16, 619–638.

Rose, D.C., Shortland, F., Hall, J., Hurley, P., Little, R., Nye, C., Lobley, M., 2022. The impact of COVID-19 on farmers' mental health: a case study of the UK. J. Agromed. 1–19.

Silvasti, T., 2003. The cultural model of "the good farmer" and the environmental question in Finland. Agric. Hum. Val. 20, 143–150.

Smith, A., 2000. Policy networks and advocacy coalitions: explaining policy change and stability in UK industrial pollution policy? Environ. Plann. C Govern. Pol. 18, 95–114.

Spector, M., Kitsuse, J.I., 2001. Constructing Social Problems. Transaction Publishers, New Brunswick, N.J.

Torgerson, P.R., Torgerson, D.J., 2010. Public health and bovine tuberculosis: what's all the fuss about? Trends Microbiol. 18, 67–72.

Ward, N., Donaldson, A., Lowe, P., 2004. Policy framing and learning the lessons from the UK's foot and mouth disease crisis. Environ. Plann. C Govern. Pol. 22, 291–306.

Wheeler, R., Lobley, M., 2022. Health-related quality of life within agriculture in England and Wales: results from a EQ-5D-3L self-report questionnaire. BMC Publ. Health 22, 1395.

Wheeler, R., Lobley, M., McCann, J., Phillimore, A., 2022. 'It's a Lonely Old World': Developing a Multidimensional Understanding of Loneliness in Farming. Sociologia Ruralis n/a.

Wilkinson, K., 2011. Organised chaos: an interpretive approach to evidence-based policy making in Defra. Polit. Stud. 59, 959–977.

Winter, M., 2003. Embeddedness, the new food economy and defensive localism. J. Rural Stud. 19, 23–32.

Woods, M., 1998. Rethinking elites: networks, space, and local politics. Environ. Plann. 30, 2101–2119.

Woods, M., 2012. New directions in rural studies? J. Rural Stud. 28, 1–4.

Woods, M., Anderson, J., Guilbert, S., Watkin, S., 2012. 'The country(side) is angry': emotion and explanation in protest mobilization. Soc. Cult. Geogr. 13, 567–585.

Yanow, D., 2000. Conducting Interpretive Policy Analysis. Sage, London.