For the past decade, the policy community/issue network typology of pressure group interaction has been used to explain policy outcomes and the policy-making process. To re-examine the validity of this typology, the paper focuses on the UK government’s response to the 2001 Foot and Mouth Disease (FMD) crisis, and in particular the decision to pursue contiguous culling rather than vaccination to overcome the epidemic. Rather than illustrating the emergence of an issue network in agricultural policy, the decision-making process of the FMD outbreak demonstrates continuity with prior crises. In addition, the politicization of scientific expertise is identified as an emerging trend in crisis management. Policy framing is used to explain the impetus behind the contiguous cull decision, concluding that the legacy of previous policy choices conditioned the crisis response to a far greater degree than contemporaneous pressure group action.

Policy network analysis and the contrasting models of policy communities and issue networks, as put forward by Marsh and Rhodes (1992, p. 251), continue to dominate the literature on the relationship between organized interests and the policy process. The distinction runs as follows. A policy community has a limited number of members, and consciously excludes others. Economic and professional interests dominate, and as a result, values and outcomes persist over time. As the relatively few participants all have salient resources, there is a balance of power among them and they enter into exchange relationships, enjoying frequent, high quality interaction on all relevant matters. An issue network, in contrast, encompasses a large range of affected interests, and thus conflict is ever present between members. As some lack resources, their relationships are consultative and unequal, and access to policy making fluctuates significantly. Given these fundamental characteristics, we might expect that a shift from one arrangement of groups to the other would both be unusual and indicate a momentous change in the workings of the policy process. The implications for policy choices would be great, as

all case studies suggest that networks affect policy outcomes. The existence of a policy network, or more particularly a policy community, constrains the political agenda and shapes the policy outcomes. Policy communities, in particular, are associated with policy continuity. (Rhodes and Marsh 1992, p. 197)

The consequence of a shift to an issue network would be expected to be discontinuity and increasing inter-organizational conflict, accompanied by a broadening of the policy agenda. The resulting policy-making process, as groups compete for influence, would likely be erratic and highly unstable.

Various analysts have diagnosed just such a transition in recent years in agricultural policy-making (see, for example, Smith 1991; Jordan et al. 1994; Grant 2004; Woods 2005). Once deemed ‘the paradigm case of a closed policy community’ (Smith 1993, p. 101), it is seen that a succession of high profile policy disasters – most notably food

Katy Wilkinson and Philip Lowe are in the Centre for Rural Economy, University of Newcastle upon Tyne. Andrew Donaldson is in the School of Architecture, Planning and Landscape, University of Newcastle upon Tyne.
scares – served to repoliticize agricultural policy, leading to the confident expectation that the policy community had been decisively prised open (Smith 1991).

In the 1980s, a series of food and health issues attracted public attention, from Chernobyl, *Listeria* and beef hormone implants to pesticides and nitrates in water. Anxieties over food and farming practices had been aroused by the growing number of cases of food poisoning – up from around 5,000 in 1972 to over 11,000 in 1979 – mainly due to endemic *Salmonella* in the UK chicken population (Grose 1983). Against this background, the media furore in 1988 surrounding the statement, and subsequent resignation, of Junior Minister Edwina Currie regarding the widespread presence of *Salmonella* in British eggs, placed food safety firmly on the agenda and initiated scrutiny on an unprecedented scale. The discovery of BSE in British cattle and the subsequent linking to a new variant of Creutzfeld–Jakob Disease (CJD) in humans brought public mistrust of government on these matters to crisis point; in 1996, 21 per cent of the population named BSE as the most urgent problem facing the country, placing the issue second only to unemployment in public concern (Gallup poll, King and Wybrow 2001, p. 272).

The *Salmonella* and BSE crises were seen as an indictment of the policy community and the close relationship between producer groups, particularly the National Farmers’ Union (NFU), and the Ministry of Agriculture, Fisheries and Food (MAFF). Policy was oriented towards the productivity and profitability of farmers, and this had been achieved through low levels of regulation. Indeed, producers had been granted the privilege of self-regulation but had failed to fulfil their obligations. When regulation failed, MAFF was willing to side with producer groups rather than fulfill its obligation to protect the public interest. Ultimately, as the official inquiry into BSE concluded, the disease ‘developed into an epidemic as a consequence of an intensive farming practice [which], unchallenged over decades, proved a recipe for disaster’ (BSE Inquiry 2000, p. xvii). It seemed inevitable that the policy community would be opened up as consumers gained a significant voice through the creation of a separate statutory Food Standards Agency and as the professionalization of conservation and environmental groups afforded them greater access to policy makers (Lowe *et al*. 2001a, p. 93). Some commentators now take for granted ‘the collapse’ of the agricultural policy community and speak of ‘the incoherence of the contemporary agricultural policy network in Britain’ (Woods 2005, pp. 21, 159).

The conduct of the most recent farming crisis in the UK, the 2001 Foot and Mouth Disease (FMD) epidemic, provides the opportunity to test these assumptions and to assess the validity of the underlying categorization of policy networks. The outbreak, being of relatively short duration and attracting relentless public scrutiny, allows us to chart policy change. Although the policy-making process at a time of crisis may be truncated, the decisions taken nevertheless reflect prevailing priorities. Our aim is not to scrutinize the effect of crisis conditions on policy-making, but to use the FMD outbreak as a means of re-evaluating claims made about the agriculture policy network. Analysts have claimed that the affair was characterized by ‘reactive policy’ (Taylor 2003) and ‘snap policy judgements’ (McConnell and Stark 2002), largely as a consequence of interference from a disparate range of interest groups. This paper argues that while some decisions at the height of the crisis may have given the impression of government vacillation, it was the dogged pursuit of an animal cull (including non-action over the alternative possibility of vaccination) that set and maintained the overall direction of the management of the crisis. This led, in turn, to the slaughter of the largest number of domestic animals in any disease outbreak ever. More significant in the future development – at least of disease control policy – than the range of interest groups involved, is the co-option of new forms
of expertise to both inform and legitimate the policy trajectory of stamping out (that is, culling animals to halt the spread of disease).

**BSE OUTBREAK AND THE RESPONSE**

On 19 February 2001, a Veterinary Inspector with the Meat Hygiene Service spotted symptoms of FMD in pigs at an abattoir in Essex in South East England. He reported his observations to MAFF and halted all operations at the abattoir. MAFF immediately began tracing the farms from where the pigs had come and placed movement restrictions within a 5-mile radius of each property.

Subsequent analysis has shown that by the time symptoms were first spotted in Essex, 57 farms had already been ‘seeded’ with the infection (Defra 2002a), as far afield as the North East and South West of England. A pig unit in Northumberland in North East England was judged to have been the initial source of the infection. As well as having sent animals to the abattoir in Essex, it had also infected nearby farms by airborne viral plumes. Some 10 days before the outbreak had been detected, infected sheep had been transferred from one of these farms to a local market where they had come into contact with other livestock. These livestock had been transported on to Longtown Market in Cumbria in the North West of England and then widely dispersed across the UK. By the time the outbreak was first detected, the disease was already widespread across the country, although it would take a few more days for that fact to become apparent.

The following day, 20 February, laboratory testing of samples from the Essex abattoir confirmed diagnosis, and the European Commission was informed. Provisions for the control of FMD in the UK are subject to EU regulation. A number of directives (designed with the international trade regimes in mind) define the actions to be taken in the event of an FMD outbreak. Directive 64/432/EEC (as amended by 89/662/EEC) deals with the imposition of movement restrictions between member states for animal disease control. Specific European measures to control FMD were introduced with Directive 85/511/EEC, subsequently amended by Directive 90/423/EEC, to take into account the EU-wide cessation of prophylactic vaccination (AVIS n.d.). On the day following their notification of the FMD outbreak, 21 February, in accordance with EU control legislation, the European Commission banned all meat and live animal exports from the UK. This decision was immediately viewed as another blow to an already beleaguered farming industry in the UK, even before the full extent of the epidemic was known. There was seen to be an urgent need to stamp out FMD and give farmers back their ability to export.

Article 5 of Directive 90/423 laid down the requirement for all member states to have an FMD contingency plan. The UK’s contingency plan had been submitted to – and endorsed by – the Commission in 1992. The plan was ‘largely internal’ to MAFF and intended ‘essentially for officials and vets’ (Defra 2002b). It was subject to regular updates and based largely on the findings and conclusions of the Northumberland Inquiry, held after the previous serious outbreak of FMD in the UK in 1967/8. The main means it specified for disease control was the culling of all livestock on infected premises and movement restrictions on the surrounding area. The contingency planning had been based on a worst case scenario of having to deal with ten infected premises at any one time. However, at the height of the 2001 epidemic – in mid March – up to 50 new cases were being declared in the course of a single day.

As the scale of the outbreak became apparent, the UK government took more drastic action. On 22 February, the public were urged to postpone unnecessary visits which
might bring them into contact with ‘livestock farms’ (MAFF 22/02/01 News Release). The following day a ban was imposed on the movement of all livestock in Great Britain. As a total ban, it was in place for ten days. Then, from early March, the transport of some animals to slaughter was permitted, but only under licence.

The NFU also called for public access to the countryside to be curtailed. It pressed the government to impose mandatory footpath closures onto local authorities, and contacted these authorities directly, urging them to act. One week into the crisis, on 27 February, local authorities were given additional powers to close public footpaths. In a public statement on the same day, NFU president Ben Gill argued that members of the public could be unwittingly spreading the disease, and implored them to ‘please, please stay away from the countryside’ (Rural Task Force 2001, p. 25). County Councils immediately closed rights of way and issued ‘path closed’ notices to livestock farmers. Access to the countryside was effectively terminated. There was, however, no evidence to suggest that members of the public walking in the countryside played a part in the spread of the disease, and subsequently, the ‘closure of the countryside’ was admitted to have been an ultra-precautionary step that could not be justified as a practical preventative measure (Defra 2001, p. 24). In contrast, the movement of animals was known to be a major cause of disease spread and, apart from earlier detection and confirmation of disease cases, a more prompt ban on livestock movements is the one action that could have materially reduced the eventual scale of the outbreak. Soon there were reports of the impact of the closure of the countryside on rural tourism and other businesses. This led to criticism of the government for its apparently cavalier disregard of the wider rural economy and to appeals to moderate the blanket ban on countryside access.

Having overwhelmed the government’s contingency planning, throughout March the disease seemed to run ahead of efforts to stamp it out. There was a rapid acceleration of the number of confirmed cases, and it became apparent that the disease had taken a hold in certain areas and by 20 March, the president of the NFU was pleading with the prime minister to speed up the culling. In response, in mid to late March, a number of steps were taken to speed up and extend the scope of the cull, to try to get on top of the disease. In certain areas, a policy of contiguous culling – the slaughter of all animals on farms adjacent to an infected site – was to be applied. Criticisms mounted of the ability of MAFF to get on top of the disease. From the 21 March, the prime minister exercised personal control of disease control policy and the Cabinet Office Briefing Room (COBRA) was opened, bringing together departmental representatives to oversee the control strategy. The government’s Chief Scientific Advisor was asked to set up an independent FMD Science Group to advise policy. The core of that group was a small circle of epidemiologists that Sir John Krebs, then head of the Food Standards Agency, had convened to model and predict the spread of the outbreak. Part of that group, a team of modellers from Imperial College, were the first to set up a working model and their initial results demonstrated a need to drastically reduce the time between report and slaughter (to within 24 hours). The Imperial team were asked to model the effects of a 1.5 km pre-emptive cull around infected farms (both 3 km and 1.5 km culling zones had been mooted). Their predictions suggested that a 1.5 km cull and a 24-hour report-to-slaughter time would bring the disease under control. In practice, the 1.5 km radius was approximated to contiguous farms. A 48-hour time limit became attached to this contiguous cull (it is unclear where this timeframe originated) and the so-called ‘24/48’ slaughter policy was announced on 27 March. The army was brought in to manage the
slaughter and disposal of the animals. At the height of the cull in April, around 100,000 animals were being killed daily.

Slaughter on this scale provoked widespread opposition and public misgivings which led to questioning of the disease control strategy. Logistical problems in the disposal of the animals exacerbated doubts about the ‘morality’ of the policy. Hastily constructed burial pits began ‘weeping’ into water supplies, and animal corpses had to be exhumed. Horrific tales – of incompetent slaughtermen, live animals crawling out of burial pits, and wagons transporting corpses leaking blood onto roads – abounded in the media. ‘Funeral’ pyres were given priority over burial pits, but fears of carcinogenic material in the smoke prompted further questioning of the policy. While the footpath closures had deterred tourists from visiting rural areas, television images of burning carcasses deterred international tourists from coming to Britain at all. What had begun as a crisis for farmers soon escalated into a crisis which cut across many economic sectors. The direct economic effects of FMD in the years 2001–2005 were subsequently estimated at a £355 million loss to the agricultural sector, compared with a loss of £2180 million to tourism (Defra/DCMS 2002, para.16).

Many farmers themselves began to question a strategy which involved killing so many animals, the vast majority not infected, and which might succeed only by denuding whole tracts of countryside of their livestock. There was particular opposition from specialist breeders, from those with strong emotional attachments to their animals, and those anxious about the fate of traditional and rare breeds, and from countryside interests concerned about the future of pastoral farming and the landscapes it maintained.

Opponents pressed the case for a shift to the use of vaccination. The Northumberland Report, produced after the 1967–68 outbreak of FMD, established guidelines for control measures in future outbreaks and recommended that ‘contingency plans for the application of [suppressive] ring vaccination should be kept in constant readiness’ (Committee of Inquiry on Foot-and-Mouth Disease 1969, p. 94). In 2001, there were two vaccination options open to the government: protective vaccination – to safeguard a limited number of animals in a restricted area (such as the distinctive Herdwick sheep of the Lake District); and suppressive vaccination, on a much larger scale but where the inoculated livestock would eventually be culled. A suppressive vaccination approach was adopted by The Netherlands in 2001, facilitating a return to disease free status by August of that year. (A third possibility, prophylactic vaccination, has not been permitted in EU member states since 1990.) In considering the alternatives of vaccination or pre-emptive culling, a critical consideration for commercial producer interests was the different lengths of time required to regain recognition of disease-free status and the freedom to export: a 12-month delay was required following vaccination, as opposed to 3 months following stamping out through slaughter. (These rules are agreed and overseen by the Office International des Epizooties (OIE) whose authoritative status in these matters is formally approved by the World Trade Organisation.) The livestock trade was worth about £1 billion per annum, but the tourism industry was reported to be losing around £100 million each week (Guardian 31 March 2001). Suppressive vaccination and, with it, an end to stamping out, promised to stem the tourism losses, as well as to avoid the animal welfare and public health problems associated with in situ slaughtering and improvised disposal (Lessons to be Learned Inquiry 2002, p. 138).

One unresolved issue with pursuing vaccination was whether the food industry would allow animals that had been inoculated into the food chain – there was said to be resistance to this even though there were no risks to human health. Some retailers expressed
fears that consumers would demand separate labelling of vaccinated products and exhibit preferences for food from other sources, although these arguments were countered by consumer groups (Lessons Learned 2002, p. 127). While the government began to give active consideration to the vaccination option, public distaste and press criticism towards the slaughter policy mounted. Nothing seemed to symbolize this popular reaction more than the fevered speculation over the possible fate of a calf, later to be named Phoenix, which had been discovered alive by its owners among the carcasses of its slaughtered herd. The national media picked up on the story and ran with it for several days. The press furore was fuelled by the fact that the herd had not been infected with FMD, but had been slaughtered under the contiguous cull policy. The policy required that Phoenix be killed immediately, as the calf was still within the culling zone. The *Daily Mirror* launched a ‘Save Phoenix’ campaign, and, despite protestations by the Agriculture Minister that media pressure would not change government policy, refinements were announced by Downing Street on 25 April which allowed the calf to be spared. The following day, tabloid headlines were unanimously favourable to the decision, claiming that ‘Phoenix Shows Blair Listens’ (*Daily Mirror*) and ‘PM Gives Life to Calf’ (*Daily Star*). The Mirror, predictably, made much of its achievement, later claiming that

the heart warming episode forced the Premier and farm inspectors to rethink their policy of mass culling [...] it was the flood of emails and phone calls from Mirror readers that led the great debate over Phoenix [...]. The public outcry prompted Tony Blair to issue a last-minute reprieve for the calf after top-level discussions between ministers and vets. It signalled a dramatic u-turn in the Government’s slaughter policy. (Lakeman 2003)

It did not, however, signal an outright move towards vaccination, although Blair was now explicitly acknowledging the public disgust over the mass culling policy and its implications. Speaking at a meeting with the food industry on 12 April, he warned that ‘if the case for vaccination were rejected by the industry, the result could be the slaughter of a large part of the dairy herd. The public might respond very negatively to this, and to the fact that the situation had come about because of resistance to vaccination by the farming and food industries’ (Lessons Learned 2002, p. 127). MAFF was now at pains to emphasize that vaccination was ‘under review’. Some 500,000 doses of the FMD vaccine were reserved from the EU vaccine bank and the European Commission formally authorized its contingent use. The government recruited 156 ‘vaccination teams’ who were kept on three-day standby, and farmers were sent information leaflets explaining what a change of strategy would imply (Lessons Learned 2002, p. 126). However, the rate of the spread of disease began to slow and then, in April, fall sharply. Less than three weeks after the vaccine was made available, the last of the pyres was lit. On 9 May, Prime Minister Tony Blair declared that the disease had been beaten and called the general election, which he had postponed because of the outbreak, for 7 June. Public interest began to turn elsewhere, and by the election only 2 per cent of voters identified FMD as a ‘vote-determining issue’ (Worcester and Mortimore 2001, p. 26). Straight after the election the Department of the Environment, Food and Rural Affairs (Defra) was created, subsuming MAFF and its tarnished image. Sporadic cases of FMD appeared throughout the summer, and affected areas were subjected to stringent bio-security and movement restriction regimes. Gradually, elsewhere, movement restrictions were lifted. The last confirmed case occurred at the end of September. International recognition of the UK’s disease-free status was officially regained on 22 January 2002 with the OIE’s imprimatur.
DISCUSSION

At first glance, the UK government’s handling of the crisis does seem characterized by capitulation and reactive decision making; the established policy groups had been unable to defend their values and objectives against the barrage of criticism from ‘outsider’ groups and the media. By reassessing the key policy choices outlined above, however, the process by which they were decided becomes less clear, and certainly provides little evidence for the emergence of an issue network.

The re-opening of public footpaths has been cited as a significant turning away from farming interests in recognition of the wider rural economy. It was indeed a u-turn; far more so than any other policy decision during the crisis. MAFF had from the outset done its utmost to protect farming interests; hence the access ban. The revocation of the closures days later, therefore, seemed in some quarters a betrayal of farming interests for the sake of the sectors adversely affected by the policy. But the risk of members of the public spreading the disease through walking in the countryside was low and could not justify a blanket ban once it became apparent that other sectors of the rural economy were being adversely affected. The Northumberland Report had acknowledged the possibility of human spread, but had noted that in the 179 cases of FMD in Britain between 1954 and 1967 not one was attributed to this method of transmission; the report concluded that ‘we do not consider this risk to be great’ (Committee of Inquiry 1969, p. 14). That this advice was ignored may be attributed to the general panic and confusion at the outset of the crisis. MAFF may, to a certain extent, be excused for its neglect of the wider economy when it implemented the footpaths closure policy; and simple underestimation of the effects for tourism and business in its hurry to protect uninfected farms. However, that a department concerned with rural affairs could so naively overlook the consequences for the non-agricultural economy also reflects the inherent producer-centric perspective of MAFF and its policy network at this point. The reversal of the policy was in practice ineffectual. Regardless of ministerial recommendations, many local authorities kept their rights of way closed, bowing to the concerns of farmers and their vocal opposition to re-opening. Without powers to enforce the change in policy, ministers were unable to prevent the continuing damage to small businesses and rural tourism which the closures brought about.

The second supposed ‘u-turn’ of the crisis came during the ‘Save Phoenix’ campaign, but this was even more superficial. By apparently changing policy within days of a media campaign, the government seemed to be capitulating to public opinion, saving potentially ‘at risk’ animals in a show of compassion. In reality, however, the change in policy (described as a ‘broadening of discretion’ to allow flexibility in the application of the contiguous culls) was a public relations exercise; involving a minor adjustment to policy which did not compromise the stamping out strategy. The new flexibility was only to apply in certain circumstances and then only to cattle, which made up just 12 per cent of the livestock being slaughtered. The decision was also taken in the context of the outbreak having passed its peak. Even so, between Phoenix’s ‘reprieve’ and the final end of the outbreak, a further 4 million animals would be killed (Vidal 2002). More, in fact, than in the period prior to the Phoenix episode.

The significance of these two policy decisions should not, then, be overstated. Though attracting much media attention, that treated them as major shifts in strategy, they were not symptomatic of deeper changes in rural policy-making. The decision not to vaccinate, however, affords a valuable insight into the policy process, and allows us to account for
the failure of existing policy network typologies. By early April 2001, as the number of outbreaks reached its peak, the government seemed to be readying itself to capitulate in accepting vaccination as a control strategy. The rural economy was suffering unacceptable losses, and public opinion was rapidly turning against the government and those groups supporting the slaughter policy. As the case for resorting to vaccination was so strong and the Northumberland Report had recommended it as an option, attention must be focused on the groups which influenced the final decision not to vaccinate, and the process by which that decision was made.

Throughout the epidemic, the NFU remained steadfast in its support for the stamping out strategy and its opposition to vaccination, and it was this opposition, alongside similar doubts expressed by representatives of the food industry, which influenced the government’s ultimate decision not to proceed with vaccination (Lessons Learned, p. 126). In maintaining this stance, the Union leadership had to withstand vituperation, not only from other interests and the press but also from within its own ranks. Its unwillingness to oppose the contiguous cull policy sparked an internal revolt to the extent that the NFU ‘could not guarantee the full support of its membership for policy implementation or co-operation’ (McConnell and Stark 2002, pp. 670–1). The degree to which many farmers distrusted the government, and by extension the NFU, could be seen in the proliferation, in industry publications such as Farmers’ Weekly, of ‘conspiracy theories’ that portrayed the government as the witting instigator of the epidemic, intent on drastically reducing the national livestock population. Disaffected members resigned from the Union and some defected to the direct action group Farmers For Action. In setting its face against vaccination, the NFU leadership provoked widespread dissent amongst its members. For example, in Cumbria, where 44 per cent of the total number of confirmed cases of FMD occurred, and stock was culled on more than a quarter of the holdings, rising up to 70 per cent of livestock holdings in the north of the county. The Cumberland News of 20 April carried a front-page headline ‘Desperate Cumbria pleads with Blair to vaccinate now’. A former Cumbria NFU chairman was quoted saying ‘Vaccination may be the only chance to save any of North Cumbria’s livestock’, contrary to the claim of the national NFU president that ‘The battle against Foot and Mouth is being won’. The newspaper’s letters page included many letters from farmers supporting vaccination, including one under the heading ‘We’re not all in the NFU – so go ahead and vaccinate now!’ which argued that:

While the NFU may claim that they speak, or, indeed act, for farmers, (including the majority of smaller ones, who have either resigned or have never joined) the truth is that they predominantly represent the interests of the agri-businesses and the large-scale producers, who, by reason of both greater financial reserves and borrowing power, are better able to survive the current crisis and would even ultimately benefit from the elimination of individual family farms.

On this issue, it can be seen that the NFU lacked the veto power traditionally assigned to groups with a powerful resource base whose interventions are decisive (Grant 1989). In terms of the issue network model, it is therefore anomalous that the NFU achieved so great an influence over government.

Despite displaying many of the characteristics associated with issue networks, the outcomes of the policy process exhibited a degree of continuity far more consistent with a policy community, being determined as they were by a restricted number of large and powerful business interests long established within the network. The agriculture policy
network clearly constitutes an ‘intermediate case’ which falls somewhere between the two types (Marsh and Rhodes 1992, p. 250). While the failure of one policy arena to conform rigidly to the typology is not necessarily grounds for rejecting the whole, it does call into question the value of the diagnostic criteria used. Two points can be raised in the context of the FMD crisis. Firstly, the number of participants is a questionable measure of coherence; consultation does not equate to negotiation. Consultation has undeniably increased in volume since the legitimacy crises of the agriculture policy community in the 1980s and 1990s. (Maloney et al. 1994, p. 21). Defra actively encourages consultation with as many groups as possible, and sets out guidelines to ensure accessibility and breadth of response (see Defra – http://www.defra.gov.uk/corporate/consult/criteria.htm). There exists in Britain a ‘cultural/constitutional convention that holds that policy-making is more legitimate when affected interests are involved, and ideally satisfied’ (Maloney et al. 1994, p. 22). The presence of the entire spectrum of interested parties on consultation lists does indeed provide apparent evidence of policy legitimacy. Yet groups complain of ‘consultationitis’ and what they see as cynical attempts by Defra to superficially engage with different parties in order to appear concerned with all sides of the policy debates (Barling and Lang 2003). An increase in the number of pressure groups involved in policy-making does not necessarily entail an increase in instability, precisely because a qualitative distinction exists between those engaged in consultation and those with the resources to enter into negotiations.

To reject that distinction, moreover, is to assume that government was not actively shaping the policy process and the surrounding policy network. However, there is always scope to divert unwanted attention, for example, through the creation of institutional gatekeepers (Barling and Lang 2003, p. 12). Such strategic diversion was evident during the FMD crisis, as the Rural Task Force demonstrates. Created in mid-March to represent the ‘wider rural economy’, the Task Force comprised departmental representatives alongside representatives from various concerned agencies and pressure groups. It met weekly, and then fortnightly, throughout the crisis. However, its members were not given access to scientists whose advice was crucial to the efficacy of their recommendations (for example, veterinary risk assessments posed by visitors to the countryside), and the Task Force was not permitted to ‘interfere with the conduct of the FMD campaign […] the rural economy issues, which everyone had come to acknowledge, were “parked” for the duration’ (Ward et al. 2004, p. 300). Consultation may be extensive, but it is always selectively used. The Rural Task Force’s efforts were channelled into planning the eventual rural recovery.

Secondly, the continuity in group values and preferred outcomes over time, which Marsh and Rhodes propose as an indicator of close integration, presumes a rigidity in ideological positions which is often outweighed by the desire to remain close to policymakers. Grant (1989) suggests that ‘insider’ groups discipline their members and accept limits on their actions in return for continued access to government. To this we would add that fluctuations in the ideational priorities and resources of groups which also affect their interactions. Richardson (2000) has identified changes to the policy environment – such as the emergence of new ideas (‘policy viruses’) and changing government priorities – as catalysts in the development of pressure groups’ tactics. Regardless of the dominance of particular groups, ‘new ideas and their attendant policy frames often “capture” all stakeholders who then find themselves adjusting to a new set of rules and power distributions quite different from the old policy regimes’ (Richardson 2000, pp. 1021–2). The tactics employed by the NFU over the previous two decades in responding to the pressure from environmental groups critical of intensive agricultural practices demonstrate such anticipation and reaction. As Smith suggests, the NFU has capitalized
on the poor resource base of many environmental groups which subsequently renders them unable to concentrate their efforts on a single issue for a long period of time; as a result, farmers need only resist pressure for a finite period of time before the pressure group and media spotlights turn elsewhere (1990a, p. 193).

During the FMD outbreak, one successful tactic employed by the NFU was to produce 52 detailed questions concerning the impact of vaccination. Although arguing that their aim was to focus government thinking, a member of the Select Committee on Agriculture noted that the real effect was to ‘kick the vaccination issue into the tall grass for a period and delay a difficult decision’ (McConnell and Stark 2002, p. 671). Such stalling tactics, while appearing a desperate measure, were rooted in past experience. As previously noted, vaccination was not avoided simply because government considered it unnecessary, but largely because by the time it was practically available, the number of new cases was beginning to wane. In 1967, a vaccination strategy had also been drawn up around two months into the epidemic, but had been dropped because by then the disease was being brought under control by stamping out (Committee of Inquiry 1969, pp. 72–3). Thus, despite the stand-by vaccination teams and request for supplies in 2001, it could be assumed that if the NFU were able to delay the decision to proceed sufficiently, until the crisis had peaked, vaccination could be avoided. As Kingdon suggests, ‘when we say that interest groups are important in agenda setting, we might conclude that they are promoting new agenda items or advocating certain proposals. Actually, much of interest group activity in these processes consists not of positive promotion, but rather of negative blocking’ (1995, p. 49). The challenge for opposing interests therefore was to confront such procrastination in the decision-making process. To this end, various groups did take or threatened direct action, for example, the protests organized by hoteliers to draw attention to their plight (Lowe et al. 2001b, p. 4), or the non-cooperation of local farmers with the cull, but they were thereby precluded from building the sort of links with MAFF which would have offered any opportunity to exert direct influence over policy.

The characteristics which distinguish issue networks from policy communities (membership, integration, resources, power) are a blunt tool for analysing ‘intermediate cases’, such as FMD. A more productive focus, as Grant argues, is to examine the ‘ideas and policy frames that have become embedded in the policy community to the exclusion of other approaches’ (2005, p. 314). The resolution of a given policy problem is, of course, conditioned by the ideal state to which policy-makers are aiming. Politicians choose those means which promise to deliver the ends they envisage. The response to FMD was largely conditioned by the contingency plans, EU directives and OIE rules. These defined the problem in a certain, restricted sense – namely as the incursion of an exotic animal disease of commercial significance – and thus established the ideal state as disease-free status. Disease control therefore was driven by pursuing the fastest possible return to this status. Here the contingency plan, EU directives and OIE rules specified the steps to be taken and the requirements to be satisfied to attain that objective. The difficulty in maintaining a commitment to this position occurred when short-term costs increased dramatically on account of concomitant damage to the wider rural economy – greatly diversified since the publication of the Northumberland Report and therefore not factored into considerations of the likely outcome of following the same slaughter policy. However, unlike the detailed measures and steps prescribed for the control of the disease for overseas trade purposes, there were no parallel precedents, procedures or rules to guide government’s handling of the subsequent rural economy crisis. Baumgartner and Jones (1993) argue that the way in which a particular problem is discussed and understood – its ‘policy image’ – is central
to the direction of the solutions adopted and consequently presents a key opportunity for pressure groups seeking a monopoly of influence (1993, pp. 25–6). The ‘interpretation’ of the crisis – characterizing what effects were fundamental and what secondary, and thereby prioritizing policy outcomes and actions – thus became the greatest determinant of the policy choices made.

As the adoption of either slaughter or vaccination as the preferred policy solution hinged upon predictions of the economic and political outcomes of the two options, relevant expertise became increasingly politicized. Some of the most important sources of information available to decision makers during the crisis were the epidemiological models which fed into the FMD Science Group and then into the Cabinet Office Briefing Room (COBRA). These models predicted a substantially lower overall number of cases and a definitive end to the epidemic if the 24/48 slaughter policy was vigorously pursued (as opposed to a longer report-to-slaughter period or no contiguous culling). As FMD could be eradicated eventually by stamping out, a tension was created between those sectors which urgently required the fastest possible end to the epidemic – tourism and rural businesses – and those who preferred to avoid vaccination at any cost. The question faced by the government was, therefore, the length of time which the slaughter policy, and its devastating economic effects, could be withstood for the sake of the agricultural economy and its export market.

Scientific justification for the mass cull represents a long-standing tendency of the policy network to depoliticize agriculture policy by emphasizing the ‘irrationality’ of animal welfare considerations and ‘irresponsible’ environmental groups (Smith 1990b, 1995). The introduction of the FMD Science Group into the decision-making process, regardless of the intent, served to strengthen the ‘rational’ support for the mass slaughter policy. While portraying an image of a government receiving impartial expert advice from scientists, these experts were very selectively used, and many critical of policy were isolated from policy-makers (NFMG 2002, para. 6.11). A member of the Science Group commented subsequently: ‘When I raised the question of vaccination, I was told that it was not worth spending time discussing that issue as the farming unions were known to be hostile. That immediately limited the proper consideration of alternative strategies’ (Davies 2002, p. 17).

Trust in the government, and belief in their control over the situation, remained low. In a study conducted during the outbreak, participants cited government ministers as the least trustworthy source of information about the disease, and the majority of respondents did not agree that the crisis was being managed better than BSE (Poortinga et al. 2004, pp. 82–4). The role of vets was bolstered, however, by public perception that they were impartial employees: the same survey participants viewed vets as the single most trustworthy source of information. The government attempted to engender a feeling of control, while garnering support for the contiguous cull policy, by emphasizing the role slaughter played in their management of the disease. Symbolic institutional changes had been implemented to emphasize the central ‘control’ of the crisis response, notably the greater role given to COBRA. This move was portrayed by the government as Tony Blair personally ‘taking charge’ of a centralised unit – effectively ‘taking charge of the crisis’ – at a time when the most frequently voiced criticism of MAFF was its inability to coordinate a ‘joined-up’ response. The slaughter policy also carried its own symbolism as the way to thoroughly ‘cleanse’ Britain of the disease (Woods 2004). The NFU constantly played upon the uncertainty attached to vaccination, as it is difficult to accurately ascertain whether vaccinated animals are incubating the disease after inoculation. As Britain’s
export market relies upon its disease-free status from the OIE, any such uncertainty could create a delay in the re-conferral of this status.

The slaughter policy was embedded as the preferred solution of the producer groups, and the policy problem was construed in a way that seemed to make mass culling the only realistic choice. Ward et al. (2004) have termed this process of problem definition ‘policy framing’. Policy framing ‘involves the selective use of knowledge and information about a problem and the causal relationships surrounding it, to give it meaning and render it manageable’ (Ward et al. 2004, p. 92). FMD was, from the outset, framed as a problem for farming. As an animal disease, it affected only those employed in the animal rearing industry: the urban-dwelling majority of the British population were encouraged to stay away from the countryside, as they could only exacerbate a problem which they did not understand. Throughout the crisis, farmers were reassured that MAFF/Defra were not putting the interests of ‘walkers’ above those of farmers whose livelihoods were at stake (Defra 2001, pp. 23–6), effectively emphasizing the view that rural land is a utility of which the greatest use is agricultural profit. The ‘sidelining’ of other interests through the creation of the Rural Task Force, and the priority given to supermarkets and food manufacturers (for example, holding meetings at Chequers for representatives of this sector) consolidated the direction of policy away from a rounded approach addressing the needs of the rural economy, and towards a problematization based upon a narrow definition of the sectoral interests at stake. It also effectively precluded the involvement of other government departments, such as the Department for Culture, Media and Sport (DCMS), which might have intervened on behalf of tourism and other rural business interests.

With rural economy interests thus excluded, the slaughter policy was single-mindedly pursued. The fierce media attention, however, maintained the pressure on government to contemplate other options. The creation of a supporting institution, which embodies the views of the dominant groups, is essential in preserving a policy monopoly (Baumgartner and Jones 1993, pp. 5–7). Key to the reinforcement of the slaughter policy was the simultaneous construction of a new policy and a new policy actor in the form of the 24/48 culling policy and the FMD Science Group. The work of this group during the epidemic was used to support – at best to refine – the already existing policy of mass slaughter. Slaughter now remains the main tool in FMD contingency plans, although vaccination has been considered more thoroughly and, in the current policy, has entered into the ‘decision tree’ process. The solution has not changed but the framing of problem and solution have both become scientized. This approach is now embodied in EU Directive 2003/85/EC which requires member states to maintain a standing FMD expert group to include epidemiological modelling capacity. The FMD Science Group might seem to represent an epistemic community (Haas 1992), turned to by policy-makers in a moment of crisis. However, it did not previously exist as a group with views on FMD policy and certainly did not have a common value set. In fact, deep epistemological divisions can be observed between various members of the original Science Group (Bickerstaff and Simmons 2004). As Lidskog and Sundqvist (2002) note, ‘a scientization of policy also means a politicization of science’ and the model of an epistemic community has too fixed a view of science to accommodate this process.

At the height of the crisis, the science supporting disease control was called into question. Previously, that had relied essentially on veterinary knowledge and expertise. The demands for centralized control brought in epidemiological modellers whose work seemed to give clarity and certainty to the mass slaughter strategy. The 24/48 culling,
justified by the modellers, overrode the local judgement of veterinarians on the ground. However, the veterinarians were still vitally needed to implement the cull (they remained the only type of official that farmers were inclined to trust). The scientific direction of disease control thus became an uneasy coalition between epidemiologists and veterinarians. Crucial to this process would seem to be the concept of ‘boundary work’ (Gieryn 1983, 1999; Eden et al. 2006), which refers to the processes of social negotiation by which knowledge is judged as science or non-science; processes which are historical, context specific and wholly part of the politics of science. What we may be seeing now in terms of FMD control policy is a situation in which pressure groups are obliged to engage in scientific boundary work to be part of the community on disease control but this is not a capacity that most possess.

CONCLUSION
Marsh and Rhodes’ typology of policy networks fails to explain the policy outcomes of the 2001 MFD crisis. As recent case studies have demonstrated, the term ‘policy community’ retains its utility as a descriptive tool (for example, Grant 2005). However, very few examples can be found of cases which closely resemble either the policy community or issue network model. The policy processes which occur in these numerous ‘intermediate cases’ remain under-analysed, since they are too often seen to be anomalous or in transition from one type of policy network to another. In our study of the agriculture policy network, we have demonstrated that several of the criteria used by Marsh and Rhodes pertaining to membership, integration, and resources, do not conclusively describe or explain the policy network or policy choices of the FMD crisis. Groups suffering from a crisis of legitimacy and resources retained disproportionate power to affect policy outcomes, while the inclusion of many new and disparate interests, though creating conflicts, failed to engender the anticipated instability in policy-making. We have, therefore, shifted our focus onto the decision-making process, and identified opportunities for groups to exert their influence. Following Baumgartner and Jones, we have shown that the policy image of the FMD crisis was constructed by producer groups as an animal disease with repercussions for farming and the British export industry, thus excluding representatives of the wider rural economy and reinforcing support for the slaughter policy. The use of scientific and veterinary expertise aided the depoliticization of the issue, though it was the long history of slaughter policies, enshrined in the Northumberland Report and EC directives, which gave the NFU and other pro-culling groups their greatest advantage.

In the analysis of policy networks, the actors involved in the embedding of particular solutions give an insight into long-term policy development which the contemporaneous arrangement of pressure groups may not disclose. Once policy is embedded it can be further shored up by specific forms of expertise. Any analysis of change must take into account the contextual conditions which grant authority to that expertise, and consider the strategies (on a micro level) by which it is called into account by those seeking change.

ACKNOWLEDGEMENT
The authors would like to acknowledge the helpful comments made by three anonymous referees on an earlier draft of this article.


Date received 26 February 2006. Date accepted 2 July 2006.