UNIVERSITY OF NEWCASTLE

UNIVERSITY OF NEWCASTLE UPON TYNE

CRE

CENTRE FOR RURAL ECONOMY

THE FOOT AND MOUTH CRISIS:

ISSUES FOR PUBLIC POLICY AND RESEARCH

Philip Lowe

Sandra Edwards

Neil Ward

Department of
Agricultural Economics
and Food Marketing

Working Paper 64

Centre for Rural Economy Working Paper Series

Working Paper 64

May 2001

THE FOOT AND MOUTH CRISIS: ISSUES FOR PUBLIC POLICY AND RESEARCH

Philip Lowe

Sandra Edwards[1]

Neil Ward[2]

Abstract

The paper identifies some key issues for public policy and for research arising from the recent outbreak of Foot and Mouth Disease and from the approach that has been pursued to tackle the crisis. Although a number of EU countries have been affected, the paper reflects specifically on the experience of the UK where the outbreak appears to have started and where it has had by far the most devastating impact. There are many lessons to be learned. The paper concentrates in particular on the lessons for agricultural and rural development policy and related research needs.

[1] Department of Agriculture, University of Newcastle upon Tyne.

[2] Department of Geography, University of Newcastle upon Tyne

INTRODUCTION

This paper identifies some key issues for public policy and research arising from the recent outbreak of foot and mouth disease and the approach pursued to tackle the crisis. Although a number of EU countries have been affected, the paper reflects specifically on the experience of the UK where the outbreak appears to have started and where it has had by far the most devastating impact. There are many lessons to be learned. The paper concentrates on the lessons for agricultural and rural development policy and related research needs, and is aimed at both a UK and European readership.

THE CONDUCT OF THE FOOT AND MOUTH CRISIS IN THE UK

The outbreak of Foot and Mouth Disease (FMD) in the UK was confirmed on 20th February after cattle and pigs at an abattoir in Essex were diagnosed with the disease. The initial source was soon traced to a pig fattening unit 400km away in Northumberland, but by then the disease which is highly infectious had already taken hold in the South West, North West and Midlands of England, Wales and Southern Scotland. Two months later, the number of cases of infected farms was approaching 1,500, but the epidemic seemed to have been brought under control and to be past its peak.

The Ministry of Agriculture, Fisheries and Food (MAFF) banned the movement of farm animals on 23rd February and a policy of slaughtering all animals on infected farms was pursued. To avoid any risks of spreading the disease, many rural organisations quickly cancelled

sporting and recreational events, and the general public were discouraged from journeying into the countryside.

The immediate concern in tackling the disease was the costs and loss of exports to the UK livestock industry - an industry which had suffered four years of depressed farm incomes and which was struggling to recover from the aftermath of the BSE and swine fever crises. After a few weeks, however, it became evident that businesses dependent on rural tourism and leisure activities were beginning to suffer badly due to people staying away from the countryside. Indeed, it is now clear that the economic impact of the FMD crisis has been much greater upon the wider rural economy than on farming itself.

From mid-March onwards, therefore, the UK Government has pursued a two-pronged approach to the crisis. The first prong has been to continue with measures aimed at halting the spread of the disease, including the extension of the slaughter policy to include livestock on all farms neighbouring confirmed cases. The second prong has been to seek to encourage visitors back to rural areas where it is considered safe to do so, and to introduce financial, advisory and support measures to mitigate the economic hardships faced by rural businesses affected by the crisis and its repercussions for tourism.

A vigorous and “ultra-precautionary” approach to the first prong of the Government’s strategy had led to the countryside being viewed by many, including tourists and visitors, as “closed”. This is not surprising. At the start, the Government had established statutory powers for local authorities to close public rights of way, and almost all public footpaths in rural areas were quickly closed. The 11 National Park Authorities in

England and Wales asked people to stay away and major visitor attractions shut down. However, having thus responded initially to the FMD outbreak as an overarching issue of animal health (*i.e.* an *agricultural* problem), the discouragement of visitors to the countryside compromised a much wider range of rural business activities beyond farming and precipitated a *rural economy crisis.*

IMPLICATIONS OF THE CRISIS IN THE UK

On 3rd May, the UK Government declared the epidemic "fully under control" (Daily Telegraph 4 May 2001). Some two and a half million animals had been slaughtered. The last new FMD cases were expected in July or August. Uninfected areas would then be able to remove all restrictions. Some 8,000 farms or more would be left with no livestock (out of 180,000 in Great Britain). There would be a period of several months before infected farms could be declared free. In the worst hit areas, though, farmers would not be able to restock until well into 2002.

The FMD crisis has been a major public and political issue. Economic forecasters have predicted that it could cost the UK economy up to £7 billion and, as a result, have reduced their forecasts for economic growth this year from 2.3% to 2% (Centre for Economics and Business Research, quoted in Adams, 2001). The crisis led the Government to cancel local government elections scheduled for 3rd May, the first time this had happened since the Second World War. Most political commentators believe that a General Election that had been intended to be called for that day was also effectively delayed by the crisis. The Army was called in to organise the enormous animal cull - "the biggest peacetime logistical

challenge" it had had to face, according to the Prime Minister (quoted in the Daily Telegraph 4 May 2001) who took personal charge of directing the Government's response. Inevitably there has been heated debate and recriminations about how the outbreak started and spread which has turned the spotlight onto weak controls, some dubious agricultural practices and the adequacy of the Government's response.

FMD has compounded many of the economic pressures being experienced by the agricultural industry in the UK. However, the crisis has also resulted in often severe financial losses being incurred by other sectors, including rural shops, pubs, restaurants, hotels, guesthouses and visitor attractions. Thus, on the one hand, the fact that farmers will be compensated for the slaughter of their animals and that the livestock sector has received other temporary aids to help it cope[1] has raised questions about the rationale for public financial support for agriculture compared to other sectors. On the other hand, the economic hardship among non-agricultural businesses in rural areas has consolidated and rendered more visible a new economic constituency in rural areas - the rural tourism industry. In some areas, hoteliers have organised protests to draw attention to their plight, and some have been critical of the role and treatment of the agricultural industry.

The contrasts between the significance of the tourism and agricultural sectors, the scale of the impact of FMD on them and the government aid they have each received are stark. Tourism accounts for 4 per cent of GDP - four times as much as farming. It employs 2 million people, 7 per cent of the workforce, against farming's 1.5 per cent. The tourism

[1] Such as the Welfare Slaughter Scheme which has compensated farmers for the disposal of distressed stock tied up in the crisis through movement and export restrictions

industry may lose £5 billion this year from the FMD crisis (half from lost inbound tourism; half from lost domestic tourism) compared with estimated losses to agriculture of £775 million. Yet farming is to receive £1 billion in compensation while tourism has so far been given just £18 million.[2] There are fears, moreover, that UK tourism may take a number of years to recover given the damage that the FMD crisis has inflicted on the image of the UK countryside.

Beyond the farming and tourism sectors, a range of other businesses have suffered. A telephone survey in early April of 180 representative rural microbusinesses (*i.e.* firms employing fewer than 10 people) in the North East of England, found that:

- 28% of firms had suffered a high impact (a loss of more than 10% of turnover);

- 12% of firms had suffered a medium impact (a significant adverse effect on the operation of the business but where the loss of turnover had been less than 10%);

- 59% of firms had suffered little or no impact.

Some sectors were more affected than others (see Table 1) - the worst affected being hospitality, recreation and culture, land-based and transport, in each of which a majority of rural firms were suffering. Various aid packages to assist rural firms and rural areas recover have

[2] Information compiled from Financial Times 30 April 2001, 2 May 2001; Daily Telegraph 4 May 2001; The Field May 2001).

been announced by Government amounting to £275 million by early May (Department of the Environment, Transport and the Regions, 2001).

Table 1: Percentage of Rural Firms affected by the Foot and Mouth Crisis, by Sector

	High impact %	*Medium impact %*
Hospitality	67	17
Recreation and culture	50	30
Land based	40	13
Transport	30	20
Retail	30	10
Manufacturing	10	15
Personal services	10	-
Educational and training	10	-
Business services	5	5
Construction	-	13
Health and Social	-	10

Source: Bennett *et al*., 2001

The fact that the news media have been dominated by coverage of the crisis for more than two months has raised public and political awareness of agricultural and rural development issues. Many commentators have used the crisis to call into question the approach to agricultural support currently embodied in the Common Agricultural Policy. The Prime Minister has signalled the need, once the crisis is over, for a fundamental rethink of the agricultural industry and its role in the rural economy.

By highlighting or questioning certain practices and basic assumptions, the FMD crisis represents an opportunity to re-establish certain activities on a sounder footing. For example, the extensive animal movements implicated in the rapid and widespread dispersal of the disease seem problematic not only from a biosecurity point of view but also from the perspective of animal welfare and sustainable development. Likewise,

the denuding of large parts of upland Britain of much of its grazing herds - while creating some considerable difficulties for re-stocking where traditional hefted herds (*i.e.* those with an acquired and localised territorial instinct) have been destroyed - has also created a one-off opportunity to reduce overstocking and overgrazing in vulnerable areas, and a chance for a radical overhaul of hill farming subsidies. Finally, it is clear that the worst affected areas, for example, in the North and South West of England, need spatially-targeted rural recovery programmes which should provide scope for trying out new approaches to rural development, with a view to building more robust local economies.

The remaining sections of the paper draw out some of the key policy implications and also identify related research requirements. Table 2 identifies the range of types of research that could usefully be done in the aftermath of the Foot and Mouth crisis.

Table 2: Post-FMD Research Needs and Possibilities

	Retrospective Investigation	**Real-time/ Prospective Investigation**
More Applied/Policy Oriented Research	Evaluation of the specific lessons of the crisis and how it was handled.	Action-oriented research to assist in advising on the process of rural recovery.
More Basic Research	Study of the FMD crisis as a major system shock, which has shattered and revealed underlying connections and interdependencies.	Monitoring and analysis of rural renewal programmes, to explore new principles and approaches to rural development

ISSUES FOR PUBLIC POLICY AND RESEARCH

1. Animal movement and the source of the disease

Issues highlighted

The presumed source of the outbreak was a dealer in Northumberland who purchased, fattened and sold cull sows from different locations. The pigs were fed swill (*i.e.* catering waste) which is suspected of being the source of infection, possibly through the use of meat illegally imported. This has highlighted the weakness and poor monitoring of regulations over both the treatment of swill and the import of meat and meat products.

The extent of the subsequent spread of the disease was due to the delay of three weeks in detecting the outbreak and the considerable movement of livestock that occurred in the intervening period. The transport of the batch of pigs from the Northumberland unit to the Essex abattoir where the disease was first detected was less significant in the widespread dispersal of the virus than the movement of subsequently infected sheep. Nevertheless, it made people aware that cull sows regularly travel from all parts of the country to a single exporting abattoir in Essex. These sows are either sent direct from farm or, more commonly, collected into batches for transport at local gathering points such as marts. If they go direct to abattoir they pose relatively little risk of inter-farm disease spread, but the long journey times (*e.g.* North of Scotland to Essex) are an animal welfare issue. With cessation of activity at this abattoir and restrictions on export, there is currently no UK outlet for cull sows from an industry producing about 240,000 such animals each year. At present

they are being slaughtered and disposed of under the temporary Welfare Slaughter Scheme but a longer term solution is required.

In the three weeks before the Foot and Mouth outbreak was discovered, about two million sheep were moved about the country (Cabinet Office, 2001). Movement of replacement breeding ewes and store lambs for finishing from the breeding flocks in the uplands to the lowland finishing flocks is an essential part of the sheep industry structure to make best use of natural resources. However, the outbreak highlighted the opportunistic role of sheep dealers in this process. Animals were being bought and resold through marts in different regions of the UK over very short periods of time, with some animals going through a succession of different marts and staying briefly on a succession of different farms. Under these circumstances, any sheep which are infectious but not recognised as having clear clinical symptoms of disease are in contact with large numbers of previously uninfected animals and vectors of disease over wide areas. The problem was compounded by 'unofficial' dealing at the marts of animals never registered in the official sale records and therefore not readily traceable as dangerous disease contacts.

There has been much media speculation that one of the reasons for disease spread was the increasing centralisation of animal slaughtering and processing, under pressure from the supermarkets and entailing all animals to travel long distances to a relatively small number of large abattoirs. The UK has certainly seen a major reduction in abattoir numbers and increased journey distance and time for slaughter stock. However, the closure of local abattoirs has been primarily a result of the growing overhead cost of implementing food hygiene regulations for small businesses. In any case, the risk of disease spread associated with

travel of animals for slaughter is much less than that consequent on movements between farms.

Implications for public policy

- There is to be a ban on pigswill containing meat. There is also a need for tighter controls and closer monitoring to prevent illegal imports of meat.

- Greater control is required over live animal dealers. The strict constraints that apply to pig movements between farms should be applied to other species, such as the requirement for a specified quarantine period before newly arrived stock can be moved off a farm.

- Consideration should be given to phasing out live animal auction marts in view of their potential adverse effects on both biosecurity and animal welfare. Electronic marts are already in existence and IT developments make it quite feasible for animals to pass through virtual auctions followed by direct transfer from farm to farm. However, marts are currently an important element of rural life.

- More reliable methods are needed to ensure the traceability of livestock movement. Electronic implants are developing rapidly with the potential to automate location recording of all individual animals.

- The role of local abattoirs should be reconsidered and other steps to reduce live animal movements.

Research needs

- Risk assessment studies of the different means whereby disease may be introduced.

- Modelling of disease epidemiology in relation to animal movement restriction strategies.

- Socio-economic study of the role of marts.

- IT development for automated, low cost animal traceability.

- Socio-economic study of the feasibility of a return to more localised meat production/processing chains.

2. Extensive and Intensive Farming

Issues raised

Media commentators were quick to assume that FMD was another adverse consequence of ‘intensive farming’. This was presumably based on the views that animals kept at high densities are more stressed and susceptible to infection, that the hygienic conditions are poorer and disease challenge greater, and that disease could spread rapidly between adjacent groups. Whilst the first and third points are generally true, they did not play any significant role in the current outbreak, which has occurred primarily in the most extensive livestock production systems.

At the regional level, a higher density of livestock farms obviously poses greater risk of between-farm spread once a disease outbreak has been initiated. It is this factor that makes the Netherlands so susceptible to rapidly spreading epidemics. However, in the present crisis in the UK, such large-scale geographical concentrations of animals have not been a significant factor. The disease has fortunately not become established in the high animal density areas of Yorkshire and Humberside, but the effects could have been devastating if it had.

In areas of significant animal concentrations, the slaughter of large numbers of animals on contiguous farms could have been prevented by vaccination. The Government seemed prepared to take this step at the height of the crisis, even though it could have prolonged restrictions on farm exports, but the Government did not do so in the face of opposition from the National Farmers' Union. The scale of the subsequent slaughter has not only aroused public dismay and disgust but has also created short-term and possibly long-term environmental problems through the hasty establishment of incineration and burial sites across the country.

The culling of large numbers of hill livestock as a result of FMD has raised questions about how the restocking of the hills might best be achieved. Returning to 'business-as-usual' may not be possible after the crisis, even if it were desirable. A survey of 128 affected farmers found that 6 per cent planned to quit agriculture altogether and a further 36 per cent did not intend fully to restock their holdings once the crisis was finally over (Farmers Weekly 28 April 2001). This could provide opportunities to restock on a more sustainable basis. Past support measures for upland farming have encouraged overstocking with

detrimental consequences for landscape and nature conservation in vulnerable areas.

Implications for public policy

- The refocusing of public concern on 'intensive farming' - whether or not justified on the basis of the present FMD outbreak - will increase pressure for the Government to reconsider agricultural methods and further promote concepts of sustainability and organic production.

- Fuelled by renewed interest in biosecurity arguments, in addition to existing environmental considerations, both farm and regional livestock density standards may be considered. Such standards already operate in a number of European countries and in UK organic production systems.

- The use of vaccination to regulate future outbreaks of FMD must be reconsidered in the light of the problems for the environment, for tourism and for the rural economy that have arisen by not using it in the present outbreak.

- The Agenda 2000 reforms to the CAP allowed for a significant 'greening' of farm supports in Less Favoured Areas with a move away from headage payments (which had encouraged overstocking) to area-based payments with environmental conditions. The UK Government's response, the new Hill Farming Allowance scheme, was timid through not wishing to upset upland farmers or to incur additional expenditure. Serious consideration

should now be given to replacing this with an agri-environmental scheme for the uplands.

Research needs

- How could CAP support systems be reformed to support lower intensity livestock enterprises?

- Epidemiological modelling of disease spread at different livestock density limits.

- Holistic assessment of disease management options, not just in terms of the impacts on the livestock industry, but also the environmental and rural economy consequences of the different options. Modelling of disease epidemiology in relation to vaccination strategies. Development of new generation vaccines and diagnostics to distinguish disease from vaccination antibodies.

- Experimental approaches to the restocking of the uplands, to explore different options for sustainable management.

3. Implications for Rural Policy

Issues highlighted

A crisis such as this challenges fundamental assumptions by revealing underlying realities. What this crisis has revealed above all is how much the countryside has changed in recent years and how out-of-date are official and public conceptions. The last major FMD outbreak in the UK

was in 1967. Significantly, both the major Committee of Inquiry and the economic analysis of the 1967 outbreak considered solely its impact on the agricultural sector (HM Government, 1969; Power and Harris, 1973). In those days the countryside was largely a farming domain. Much has changed since then, with the great growth in rural tourism and leisure, in counterurbanisation, in the urban-rural shift in certain types of employment and in the expansion of farm household pluriactivity. Yet public perceptions and official outlooks have not kept pace.

For example, both the mass media and government have responded to the present crisis largely as if it were simply an agricultural matter (as though we were back in 1967). A disease-control strategy that was "ultra-precautionary" in order to protect the farming industry coincided with predominant news values (particularly, the strong visual images of cows and sheep being shot and pyres of bloated carcasses) in determining the media's treatment of the crisis as an animal plague visited on the country. Confronted with these grisly images and asked to stay away, the public obeyed, avoiding contact with farm animals, but also with market towns, village pubs and shops, country hotels and visitor attractions too. The consequence has been severe losses in the wider rural economy, which at least in the short term have greatly outstripped those inflicted on the farming sector.

The UK public and government have thus been rudely awakened to the diversity of the contemporary rural economy and agriculture's minor role within it. Leisure and tourism, manufacturing and services have replaced agriculture as the mainstays of local rural economies. However, policy and official structures have failed to reflect this change, and still largely view rural issues through an agricultural lens.

Yet, while demoting agriculture, the FMD crisis has also revealed starkly the continuing dependency of the countryside on farming. The rural economy may now be diverse and agriculture a minor component. Even so, it remains vulnerable to an agricultural crisis, and would have still been vulnerable even if the crisis had not been handled from such a single-minded perspective. This is because the predominant image of the countryside which the crisis has tarnished is a pastoral one, based on extensively grazed landscapes. That is what the tourists and visitors appreciate. Agriculture's wider role in the countryside is thus mainly symbolic, aesthetic and ecological. The particular sectoral incidence and geographical impact of the present crisis have thus highlighted the links between certain farming systems and the touristic countryside. Because FMD largely took hold in sheep, the heavily affected areas have been those with extensive grazing systems and picturesque landscapes. What must be readily apparent now is that the public good benefits of pastoral farming in such areas far overshadow the market value of its tradable products. However, an outbreak of FMD elsewhere - say in Humberside or Lincolnshire - would have had quite different resonances. Last year's swine fever outbreak in East Anglia, although as devastating for the pig sector, did not have the ramifications for the wider rural economy that the FMD crisis has had.

More specific geographical dependencies and vulnerabilities have been revealed by the particular incidence of the FMD crisis. Firstly, since the mid-1980s, on-farm diversification has been promoted as a means of strengthening rural economies and boosting farm incomes. Non-agricultural enterprises on farms, though, have been particularly affected by the quarantining of farms, which must raise some doubts over the wisdom of this strategy. Secondly, the FMD crisis has revealed the still

narrow basis of the economy of some rural areas. The peripheral areas where the disease has hit hardest - the North of England and the far South West - are heavily dependent on primary industries and tourism, and consistently rank as the most deprived rural areas in England (Countryside Agency 2001). An important question facing future rural development policy is the extent to which a strategy of encouraging diversification from agriculture into tourism may risk simply shifting local employment from one vulnerable sector to another. So far, such a *critical* assessment of the contribution of farm diversification and tourism to the robustness of local rural economies has been lacking from the policy debate and strategic thinking on rural development (see, for example, English Tourism Council and Countryside Agency, 2001).

Implications for public policy

- The FMD crisis, its conduct and its impact raise profound questions about the relationship between agriculture and the rural economy, including how to secure sustainable agricultural livelihoods and how to promote more robust rural economies.

- There is now extensive support for a thorough review of the policy framework governing agriculture and for a change in the machinery of government to reflect better the nature of contemporary rural economies.

- The current system of agricultural and rural support was borne out of the priorities and concerns of the 1940s and 1950s for food security and improved agricultural productivity. Recent changes to the CAP have been limited in their scope. The FMD crisis has

focussed attention on the need for further and more ambitious reform.

- The Rural Development Regulation is the most important structural adjustment measure to assist in the reconstruction of affected rural economies while at the same time ensuring a progressive greening of rural support measures. An accelerated redirection of resources towards the RDR will depend crucially on agreement to wind down the payments to compensate farmers for past reductions in commodity price support.

- Over time, agricultural policy could become a sub-sector of rural development policy, rather than the other way round.

Research needs

- Studies of the composition and structure of contemporary rural economies.

- Evaluation of risk assessment and communication in relation to public behaviour and the spread of animal disease.

- Socio-economic analysis of agriculture's changing role in the rural economy.

- Investigation of the robustness of rural economies. Assessment of farm diversification strategies. Assessment of the vulnerabilities of tourism-dependent local economies.

References

Adams, C. (2001) Epidemic could cost economy £7billion, *Financial Times* 23rd March 2001.

Barclay, C. (2001) *Foot and Mouth Disease*, House of Commons Library Research Paper 01/35. House of Commons Library. [http://www.parliament.uk/commons/lib/research/rpintro.htm].

Bennett, K., Phillipson, J., Lowe, P. and Ward, N. (2001) *The Impact of the Foot and Mouth Crisis on Rural Firms: A Survey of Microbusinesses in the North East of England,* University of Newcastle upon Tyne, Centre for Rural Economy Working Paper 64.

Cabinet Office (2001) *Comparing the 1967-8 and the 2001 Foot and Mouth Epidemics* (Available at: http://www.maff.gov.uk/animalh/ diseases/fmd/disease/comparison/introduction.asp)

Countryside Agency (2001) *State of the Countryside 2001*, Cheltenham: Countryside Agency.

Department of the Environment, Transport and the Regions (2001) £50m Rural Business Recovery Fund, *DETR Press Release* No 256, 7 May.

English Tourism Council and Countryside Agency (2001) *Working for the Countryside: A Strategy for Rural Tourism in England*, London: ETC.

Harvey, D. (2001) *What Lessons from Foot and Mouth? A Preliminary Economic Assessment of the 2001 Epidemic,* University of Newcastle upon Tyne, Centre for Rural Economy Working Paper 63.

HM Government (1969) *The Report of the Committee of Inquiry on Foot and Mouth Disease, Parts 1 and 2*, (The 'Northumberland Report') London: HMSO.

Ministry of Agriculture, Fisheries and Food Agricultural Advisory Group (1999) *Europe's Agriculture: The Case for Change* London: Ministry of Agriculture, Fisheries and Food.

Power, A. and Harris, S. (1973) A cost-benefit evaluation of alternative control policies for foot and mouth disease in Great Britain, *Journal of Agricultural Economics*, 24, 573-596