Rural Change and the Impact of Foot and Mouth Disease

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Since the last major foot and mouth disease outbreak in the UK in 1967-68, agriculture, tourism and the whole nature of rural Britain has changed dramatically. As a result, the impact of the disease has been very different from that observed three decades ago and there is a clear need to reassess where and on whom the impact of the current epidemic has been most severe. Many have argued that the outbreak has re-affirmed the importance of agriculture in rural areas. Certainly the effects on farm businesses have dominated media attention. At the same time, there is widespread recognition that, as a result of the policies adopted to control the disease, the impacts of Foot and Mouth disease have spread beyond agriculture to other rural businesses and even beyond the rural economy itself. This article describes how the current Foot and Mouth epidemic has developed over both time and space, and considers the distributional effects of the impact in the light of changes in the nature of rural areas.

The Spread of the Outbreak and Basic Control Strategy

Although yet to be confirmed, it appears that the source of the current foot and mouth epidemic was a pig farm at Heddon on the Wall in Northumberland. Critically, the case was not diagnosed until pigs had been sent for slaughter at an abattoir in Essex on February 20th. Prior to that date, the virus is believed to have been spread, by air, to seven other farms in Tyne and Wear, from one of them to Hexham market and then on to Longton market in Cumbria on the 15th and 22nd of February. The extensive animal movements that now characterise the livestock sector ensured that, from that point on, the virus was dispersed widely across the UK before a total ban on movements was introduced at 5pm on February 23rd.

Foot and Mouth is not a fatal disease (most animals recover within two weeks) and it does not threaten human health. It does however effect the long term productivity of animals and the confirmation of the first case in February this year resulted in the immediate loss of the UK's livestock and meat products export market, valued at £427m in 2000 (Meat and Livestock Commission, 2001).

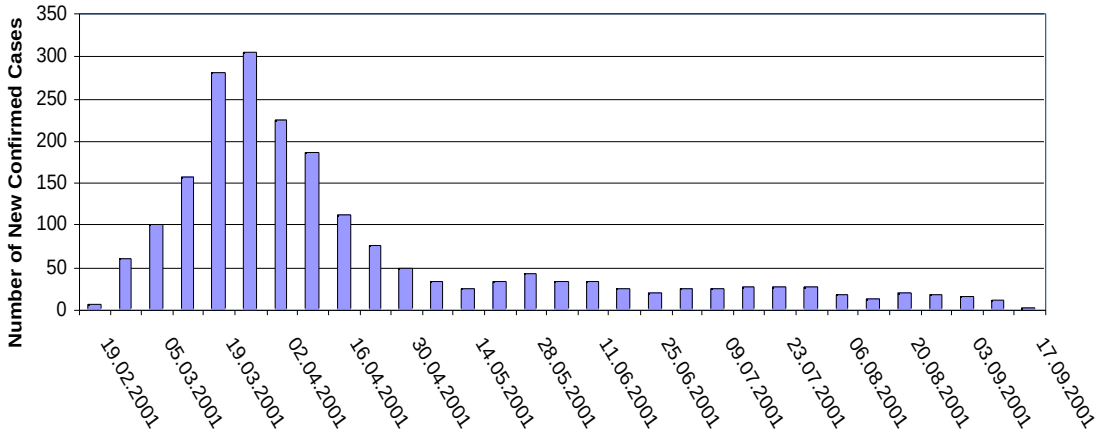
Urged on by the National Farmers Union, the government has adopted a control strategy aimed at eradicating the disease as quickly as possible. The basic control strategy consists of four elements:

- culling animals on infected farms within 24 hours of the infection report;
- slaughtering susceptible animals on neighbouring contiguous farms and where there had been dangerous contact within 48 hours (subsequently relaxed to a discretionary slaughtering regime assessed on a case by case basis);
- a pre-emptive cull of sheep in areas where large outbreaks may occur (e.g., in the Brecon Beacons and Lake District), and finally;
- restricting the movements of animals, contaminated people, equipment and vehicles in high risk areas.

At time of writing (September 23rd), 2,026 cases have been confirmed in the UK, approaching 9,500 premises affected by the slaughter policy and 3.9 million animals culled. Figure 1 (overleaf) indicates the spread of the disease over the seven months following the initial confirmed cases in February.

In addition to the increased movement of stock across the country, there have been other fundamental changes in the nature of the livestock industry. In particular, the industry is more intensive, farm sizes and stock numbers have increased,

Figure 1 - Number of New Confirmations of Foot and Mouth Disease per Week [19/2/01 - 23/9/01]



Source: Department for Environment Food and Rural Affairs

production cycles shortened, and livestock markets and abattoirs are now larger and fewer in number. All have made the disease more difficult to contain than in the past.

These changes have also contributed to the disease being geographically more dispersed than in 1967-68. However there have been areas where the disease has been particularly concentrated, in particular, Cumbria, North Devon, Dumfries and Galloway, and Northumberland have suffered a high incidence of cases (see Figure 2). Research by the Countryside Agency suggests all three areas are already exposed to economic setbacks. (Countryside Agency, 2001). More generally, restrictions on movements, increased costs and impacts on domestic market prices have meant that virtually no farmer in the UK has been unaffected by the impacts of the disease.

Foot and Mouth Disease in a Changed Rural Context

A combination of economic, political, social and environmental pressures have fundamentally changed the nature of rural areas in the UK over the last three decades. What appear at first to be similar types of rural areas have responded quite differently to the drivers of change and, as a result, it is difficult to generalise about the main impacts of the pressures. However four key trends can be distinguished which have, to varying extents, affected all rural areas. First the economic significance of agriculture has declined to the extent that very few areas could now be defined as agriculturally dependent, even taking into account the activities of those sectors linked to farming in the

Figure 2: Number of confirmed cases in the UK (to 23rd September 2001) by region

Regional Development Agencies	Confirmed Cases to date
England:	
West Midlands	**130**
East Midlands	**15**
East of England	**11**
North West	**1053**
of which Cumbria	*892*
North East	**96**
South East of England	**9**
South West of England	**268**
of which Devon	*173*
Yorkshire	**140**
Wales:	**113**
Scotland:	**187**
of which Dumfries and Galloway	*176*
Northern Ireland:	**4**
Total:	**2026**

agri-food chain. Second, increasing amounts of manufacturing and in particular service sector employment has spread to rural locations resulting in an apparent narrowing of the differences in urban and rural economic structures. Third, all but the most remote rural areas have experienced a net in-migration of households. Finally, there has been an increase in demand for rural leisure goods and a growth of rural tourism with, for example, the number of visits to the countryside growing by 69% between 1990 and 1999 (English Tourism Council, 2001a). Amongst other things, this latter trend has created valuable opportunities for the more traditional rural sectors, in particular farmers, to diversify and, in principle, helped to cushion the impact of their long term structural decline.

Taking all these changes into account, social and economic relationships both within rural areas and between rural and urban areas have changed significantly. They have also meant that the impact of the current foot and mouth outbreak has been very different than that of the 1967-68 epidemic. The outbreak has highlighted both interdependencies within rural economies (for example between farming and tourism) and potential conflicts between the needs of those associated with the farm sector and other rural sectors, inhabitants and countryside visitors. Some of these become apparent when considering the impacts of the disease.

The Impact of the Disease

To date, estimates of the total economic impact of the epidemic have ranged from £1.6bn or 0.2% of UK GDP (Oxford Economic Forecasting, National Institute of Economic and Social Research) to £9bn, 1.1% of GDP (Centre for Economic and Business Research) (the latter subsequently revised downwards to £6.3bn). Importantly, all of the forecasts suggest the impact on tourism and recreation has been greater than the impact on agriculture and agriculture-related industries, even taking into account the tourism displacement to areas of the country less affected by the crisis and the indirect and induced effects associated with the disease. In contrast, an evaluation of alternative control policies for foot and mouth following the 1967-68 crisis suggested tourism was not significantly affected (Harris and Power, 1973). Part of the reason why the sector has been so affected by current outbreak relates to the initial handling and public response to the crisis.

Concerned by the potential spread of the disease through the (increased) movements of the general public in rural areas, the government announced a closure of all country paths and the inland waterway network within a week of the outbreak being confirmed. This, combined with widespread media coverage of the adverse impacts of the disease on farming communities, suggested that it was in the best interest of the countryside as a whole for the general public to avoid visiting all rural areas. For example, in a statement on 27th February the Prime Minister said: *".....by staying away from farmland areas, unless we have good reason, we can show our support for farmers in these difficult times and help contain and then eradicate the disease from Britain as soon as possible."* [1]

Rural pursuits such as walking, climbing, riding, recreational angling, and shooting were immediately severely curtailed, many rural visitor attractions closed, and agricultural and sporting events cancelled. The combined effect had obvious implications for rural businesses including those who, whilst not totally dependent on tourism and recreation, never the less have grown to rely on visitors for a significant proportion of their demand. Importantly, of the total value of rural tourism, 6% is attributable to overseas tourists, 17% to domestic staying visitors and 77% to UK day visitors (English Tourism Council, 2001a), the latter being particularly strong in spring months when the outbreak was at its most intense.

If the disease had been brought quickly under control so that the restrictions could be lifted, the initial intention of limiting the spread of the disease through the movement of the general public would undoubtedly have been validated. However, despite

the setting up a rural tourism taskforce and high profile statements to the contrary, it has proved extremely difficult to reverse the perception that the whole of the countryside is closed for business. It is the impact of these perceptions as opposed the direct effects of the disease which have resulted in the most significant economic impacts of the current crisis.

Research to date suggests that the sectors most affected by the decline in tourism associated with Foot and Mouth have been accommodation providers particularly small independent hoteliers, businesses specialised in countryside attractions an those providing opportunities for rural pursuits. More indirectly, public houses and outdoor pursuits suppliers also appear to have been badly hit by the fall in countryside recreation and tourism. Within the agriculture sector, those who have diversified into supply consumer services (for example, farmers with direct markets, Bed and Breakfast accommodation and/or offering rural recreation facilitates) have unfortunately faced a "double whammy" effect with both strands of their business affected. Whilst animal feed suppliers may in future be hit by a predicted reduction in livestock numbers, the effects of the outbreak appear to have been felt most severely downstream from the farm gate through the loss of income and employment associated with the closure of markets, abattoirs and impact on the haulage industry. Again small businesses are likely to be most adversely affected through cash-flow problems especially in areas where the incidence of the disease has been high, and where rural tourism and agriculture-related activity provides a substantial proportion of income to the local economy.

There have however been gainers as well as losers from the crisis. It has been widely reported that tourism over the Easter period was not as badly affected as originally anticipated with some areas, particularly coastal areas, experiencing an increase in tourist numbers as a result of displacement (English Tourism Council, 2001b). Likewise, there is evidence of a switch in demand towards visitor attractions located in urban areas with Blackpool tower and circus for example reporting 30% more visitors over Easter than in 2000. Moreover, recent retail analyses suggest an increase in demand for household goods, attributing it in part to would-be rural visitors choosing to spend their money on other items. Overall, whether or not urban areas have gained from the outbreak at the expense of rural areas depends on whether the switch in domestic consumption and tourism activities has compensated for the decline in overseas tourism, the vast proportion of which is urban based. Recent figures suggest foreign tourist numbers in June (four months after the first case and in a time when new cases have been confirmed to single figures) were some 13% below those in the previous year (Office of National Statistics, 2001). The speed at which the economy recovers from the impact of the disease will depend as much, if not more, on the rate at which the perceptions of rural visitors are changed than the speed with which farmers and agricultural markets recover.

The Case for Re-considering Control Mechanisms

One of the conclusions being drawn from the impact of the current foot and mouth outbreak is that it re-confirms the importance of the agriculture sector for the health of rural economies. A far clearer point emerging from the crisis however is the significance of tourism and recreation for rural livelihoods. Certainly the outbreak has highlighted the fact that farming provides an important backdrop to wide range of rural activities. However, the reason why rural economies have been so badly affected by the current Foot and Mouth outbreak can be attributed to the original message in late February suggesting that the countryside was closed to the general public and the subsequent difficulty in reversing this message. Only around a fifth of UK tourists undertake activities directly affected by the Foot and Mouth crisis and the calculated risk of the general public spreading the virus whilst staying off farm land is very small. Thus it could be argued, that if the exclusion of the general public had been less extreme, the vast proportion of economic losses in rural areas could have been avoided without significantly increasing the risk of the virus spreading.

Given changes in the nature of rural economies and their increasing reliance on tourism and recreation demand, there is a strong case for a re-evaluation of the costs and benefits of alternative control strategies for Foot and Mouth, including the policy of vaccination .

Arguably one of the greatest impediments to rural development over the last few decades has been the propensity for both rural practitioners and policy makers to treat agriculture and rural as synonymous. It would be unfortunate if, given all the difficulties rural areas have faced over the last few months, the wrong lessons drawn from the experience of the outbreak and the policies for recovery were too narrowly focussed on finding value-added activities for farm-related resources and output.

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References

1 Transcript of the Prime Minster's broadcast on Foot and Mouth Disease, 27.02.2001 http://www.number-10.gov.uk/new.asp

Countryside Agency (2001) The State of the Countryside 2001. The Countryside Agency, Cheltenham.

Department for Environment Food and Rural Affairs. http://www.defra.gov.uk/footandmouth/

Power, A.P. and Harris, S.A. (1973) A cost-benefit evaluation of alternative control policies for foot and mouth disease in Great Britain, Journal of Agricultural Economics, Vol 24, No.3, pp573-596

English Tourism Council (2001a) Facts and Figures – basic tourism and rural tourism statistics. http://www.englishtourism.org.uk/

English Tourism Council (2001b) Tourism Recovery Briefing. 25 April 2001.

Meat and Livestock Commission (2001) Foot and Mouth Outbreak. Information and Guidance. Export Facts and Figures (as updated 29th March, 2001). http://www.mlc.org.uk/

Office of National Statistics (2001) Overseas travel and tourism. National Statistics. London . http://www.statistics.gov.uk