



## **The Rural North: Landscapes of Endeavour and Enquiry The 2008 Cameron-Gifford Lecture**

**Professor Philip Lowe**

**Duke of Northumberland Professor of Rural Economy  
Director of the UK Research Councils Rural Economy and Land Use (Relu) Programme**

**Centre for Rural Economy Discussion Paper Series No. 16**

**May 2008**

### **Summary**

The Centre for Rural Economy (CRE) at Newcastle University was established in 1992 to commemorate the 10<sup>th</sup> Duke of Northumberland who had been the University's first Chancellor. Since then the Centre has become the leader in the UK for research on rural development. It has pioneered an understanding of the distinctive characteristics and needs of rural economies, influenced national and international rural policy, and raised the profile of rural economy issues in Northern England. This paper is based on the public lecture given before the Duke of Northumberland, the Vice-Chancellor of the University and 200 members of the Northern Rural Network on 22<sup>nd</sup> April 2008. It reflects on the scholarly and practical achievements of the CRE and draws lessons for how the University may remain vital to the rural economy.

## Introduction

The Centre for Rural Economy (CRE) at Newcastle University was established in 1992 to commemorate the 10<sup>th</sup> Duke of Northumberland who had been the University's first Chancellor. It is a privilege to hold the Chair of Rural Economy in memory of the Duke. He was a great patrician aristocrat in the finest English tradition, war hero, progressive landowner, an enthusiastic countryman and a man of science – a great figurehead for this University. It is a sobering experience then, as I pursue various contemporary concerns, to find that he has been there before me.

Recently I agreed to chair a committee on the future of the rural veterinary profession. Delving through the archives I discovered that the last major report on this subject was prepared under the chairmanship of the 10<sup>th</sup> Duke – and very well written, it was too. Likewise, when seeking to draw lessons from the 2001 Foot and Mouth Epidemic, we found that the definitive account of how to fight the disease was the Northumberland report written in the aftermath of the previous big outbreak in 1968.

These examples no doubt serve to emphasise that certain rural problems endlessly recur. Plus ça change. But that what was once a charge for the Duke of Northumberland is now a responsibility of the Duke of Northumberland Professor indicates certain underlying changes. For good or ill it reflects a professionalization of expertise whose inescapable counterpart is a separation of ideas and action – the landscapes of enquiry and endeavour that I take as the title of my talk.

How does the Centre for Rural Economy, set up to honour the Duke, transcend the divide between ideas and action – a divide which would have been an anathema to him. That question takes me to my second source of inspiration, which is none other than our illustrious pro-vice Chancellor – Professor John Goddard – who has done more than anyone to revitalise the relationship between universities and their regions and to imaginatively and doggedly apply these ideas here in the North East of England.

Let me first say something about the landscapes of knowledge that we have helped to create here at the Centre for Rural Economy, before reflecting on how our experience shows how the University can remain vital to the rural economy of the North of England. With more than 60 staff and doctoral researchers involved in its work, the Centre has become the leader in the UK for research on rural development. It has pioneered an understanding of the distinctive characteristics and needs of rural economies; influenced national and international rural policy; and raised the profile of rural economy issues in Northern England.

## Characterising Rural Economies

Rural areas rely for their prosperity on much more than agriculture. This is something that we now freely acknowledge. The Centre has led the way in painting an up-to-date picture of contemporary rural economies, with their diversified farms, local services, small businesses, commuters, home-workers, community organisations and the rest.

The Centre has also revealed the mechanisms that shape rural economies, focusing on the tensions between the so-called endogenous and exogenous forces: in other words, the internal dynamics of businesses, households and communities and the external social, economic and natural forces that impact on them.

Before CRE was established very little information had been gathered about the distinctive nature of rural firms and their contribution to the rural economy outside of agriculture. In the late 1990s CRE conducted the first extensive survey of rural microbusinesses – those employing 10 or fewer people. Almost 90% of rural businesses fall into this category, a significantly higher proportion than in urban areas. The mean size of a rural firm is 6 people, compared with 16 for an urban firm. Our Rural Microbusiness Survey highlighted the distinctive characteristics of these small firms, including their support systems and business networks. Our evidence shows that rural firms are vital sources of local services and employment. They contribute to the diversity and flexibility of local economies. They serve local markets and they often source their supplies locally.

In small firms, the business owner is, of course, absolutely central to the enterprise. Work by my colleague Jeremy Phillipson has found they have diverse goals and motivations, but the following are the most prominent stated rationales for setting up a rural business:

- quality of life
- family circumstances
- flexibility of lifestyle
- independence

Only a third wants to grow in size or employ new people. Moreover, while they are important sources of local employment, they often don't give high priority to developing their staff.

So is the countryside a good place to do business? While rural areas do offer certain attractions for small firms - including availability of flexible business-cum-residential premises (often well suited to starter firms and the self-employed) and adaptable flexible labour - small rural firms typically face certain disadvantages:

- limited local markets
- shortage of skilled labour
- distance from services (advice, training etc)
- poor infrastructure provision (transport, communications etc)
- vulnerability of peripheral areas to economic and environmental shocks

Can businesses overcome the disadvantages by working together? One of our current postgraduates, Bob Newbery, is investigating the extent to which business associations based in market towns provide services such as training and advice for their members as well as representing the interests of the business community. However, these local associations are often small and under-resourced. And external efforts to strengthen them, if too heavy handed, can be counter productive and alienate the members. The research will lead to an understanding of how rural business associations work and how they may best be supported.

Country dwellers though have to look outwards as well as inwards. The dynamism of rural economies is not solely rooted in local (that is endogenous) capacities and resources but depends on their ability to mediate external (or exogenous) processes and actions too. For example, UK rural areas are experiencing strong counter-urbanisation: their populations are growing, largely through net-inmigration, and at higher rates of growth than provincial urban areas.

A strand of our research has been on the economic and social role of people moving from town to country. We hear a lot in the press about NIMBYs – escapees to village England who simply want to pull up the drawbridge and oppose any further development. So research by our PhD student Gary Bosworth is examining how newcomers might be helped to integrate into the local economy and community.

Half of rural firms in north east England were set up by people who had recently moved to the area. They are responsible for 8000 jobs in the rural north east – that's 2.5 times the number in agriculture and fishing. Newcomer business entrepreneurs tend to have better external connections. They are also likely to be more growth oriented. This finding has led to a reassessment of the economic importance of migration to rural areas.

Another topic where we have exploded some myths is on ageing and the countryside. The increasing proportion of grey hair is in fact a ubiquitous feature of our society but is happening faster in rural than in urban areas: the median age for a rural resident is 42 compared with 36 for an urban resident. Rural areas are thus at the cutting edge of this major social transition. Their populations are ageing and growing, largely through the net in-migration of older age groups. But this is not largely the bucolic ideal, or horror, of retirement to the countryside.

Much more significant than retired migrants are people from as young as their 40s onwards who move to settle in rural localities perhaps with a view to eventual retirement, but who at the same time are substantially reshaping their employment, family, leisure and community activities. That reshaping often unlocks a great deal of personal capital, time and energy. The downshifting 'pre-retired' are thus typically a very dynamic element – helping sustain the voluntary sector, in the vanguard of new demands on commercial and public services, and behind the growth in part-time and self-employment and the setting up of new businesses.

An external force of a different kind was the Foot and Mouth epidemic of 2001. It not only devastated livestock farming but also inflicted widespread disruption on other sectors of the rural economy. Here are the statistics of woe:

- 4.2 million animals culled on 14000 farms
- Large areas of the countryside closed for several months to prevent disease spread
- Cost to the private sector £5 billion; to the public sector £3 billion

At the time, CRE was able to survey how rural businesses were being affected and was the first organisation to produce authoritative independent analyses of the wider impacts of the crisis. Later on, follow-up analysis revealed that some businesses - particularly those with strong local social and family connections - had weathered the crisis much better than others. Despite massive losses only 141 business closures were officially registered. To a considerable extent rural households absorbed the impacts of the crisis and acted as buffers to firms and rural economies.

**Table 1: Coping Responses of Micro-Firms in Foot and Mouth Crisis**

Coping responses	% impacted firms n=72
Household members working longer hours	40
Take smaller wage	39
Cancel or postpone investment	36
Reduce staff working hours	35
Increase marketing/advertising	32
Cut back household spending	30
Spend business reserves	30
Cancel or postpone plans to expand business	29
Decrease marketing/advertising	27
Renegotiate existing loans	27
Spend personal savings	26
Take out new loan	21
Layoffs/redundancies	21
Not taking on seasonal/casual staff	17
Change strategy	16
Household member looking for job	14
Temporary closure	9
Ask staff to take holidays	7
Increase staff working hours	6
Attempt to sell business	3

Source: Bennett et al. (2001)

We can see this from analysis by Jeremy Phillipson and Katy Bennett (2001) of how firms coped with the FMD crisis and the rural shutdown (Table 1). As well as demands on their employees, business households were able to draw upon their own flexible labour, with household members doing more or less work (often unpaid), to see the business through. A pub in north Northumberland survived by laying off all the casual staff and getting members of the family – from grandfather to teenage daughter – to work round the clock. Household spending was also squeezed, and business owners drew upon personal savings or income from other sources (investments, earnings, pensions). This work highlighted the resilience of small rural firms, rooted in households and local communities.

From this and other evidence, CRE researchers have developed new insights into the sources of strength and weakness in rural economies. The social, occupational and business make-up of an area are factors, but also the effectiveness of local networks and the extent to which businesses and households are embedded in local communities. Highly embedded firms and households (with strong local connections, dense local networks, attachment to community goals) can contribute significantly to resilience. But there may be a downside.

Embeddedness can assist and impede economic performance as is apparent from Jane Atterton's study of the networking relationships of businesses in remote rural Scotland. An overreliance on embedded networks can mean a firm becoming insular or failing to adapt.

Jane compared links between firms – the formal buying and selling relationships and informal exchanges of advice and information – in three small towns in North East Scotland. The study found that the better economic performance of both Dingwall and Tain was partly due to the engagement of their firms in external networking through which they accessed new markets and resources. Firms in Wick, in contrast, were found to have much more localised networks, and whilst there was a high level of trust and social capital amongst local business owners, their lack of openness to new markets and new information beyond the locality limited their potential for growth.

### **Conceptualising Rural Development**

We have drawn on these gathering insights to understand better how rural communities grow and prosper. The classic formulation of rural development, prevalent in post-war Europe, was an exogenous model ('driven from outside'), which put industrialisation at the centre of development. The key principles of this model were economies of scale and concentration. Urban centres were regarded as growth poles for the economic development of regions and countries. In other words, the main forces of progress were conceived as being outside rural areas. The function of rural areas was primarily to provide food and labour for the expanding cities, and the problems of rural areas were diagnosed as those of marginality. Rural areas were distant technically, economically and culturally from the main (urban) centres of activity. In all of these respects they were 'backward'.

One of the legacies of this period is the so-called linear model of knowledge transfer. Scientific knowledge also was conceived of as an exogenous force. Technology and innovation were seen as vital drivers of rural development but these were fixes generated through external research rather than generated in or for specific localities. The crucial role of rural development was to diffuse new technologies. I will return to this point later when I review the changing role of universities in knowledge transfer.

By the early 1980s, the exogenous approach to rural development was falling into disrepute. There was growing evidence that the model had not worked in many places (and indeed had been to the detriment of many rural areas). Exogenous development was criticised as *dependent development*, *distorted development*, *destructive development*, and *dictated development*. It became clear that an alternative, more locally based approach was needed.

## What's wrong with Exogenous Approaches to Rural Development?

- **dependent development**
  - relies on subsidies
  - decisions made at a distance
- **distorted development**
  - selective
  - leaves some people behind
  - neglects non-economic aspects
- **destructive development**
  - erased cultural and environmental differences
- **dictated development**
  - devised by external experts

These criticisms encouraged the exploration of so-called endogenous approaches to rural development ('driven from within') based on the assumption that the specific resources of an area – natural, human and cultural – hold the key to its development. Whereas exogenous rural development saw its primary challenge as overcoming rural differences and distinctiveness through the promotion of universal technical skills and the modernisation of physical infrastructure, endogenous development saw the main challenge as *valorising difference* through the nurturing of locally distinctive human and environmental capacities.

Drawing on our involvement in rural development programmes in northern England and more widely, the Centre for Rural Economy was influential in spreading but also challenging endogenous development ideas. We argued that the notion of localities pursuing socio-economic development autonomously of outside economic, cultural or government influences is not a practical proposition in a globalised world. Social and economic development processes in any locality will include a mix of local and external forces. The critical issue is the balance of control and how to enhance the capacity of local areas and agents to steer these larger processes and actions to their benefit. This is our notion of neo-endogenous development.

## Models of Rural Development

Development based on local resources and local participation can be animated from three possible directions: within the local area; from the intermediate level; and from above:

- **Endogenous units:** households, private enterprise, community organisations, producer cooperatives, informal local networks
- **Neo-Endogenous units:** Area-based partnerships, LEADER, business support agencies, 'Protected Food Names' Scheme, Local Government, Voluntary Organisations
- **Local/Global actors (neo-endogenous gatekeepers):** Local elites, regional development agencies, NGOs, national and international companies, public agencies, trans-local alliances, universities, research institutions.

It incorporates ideas from the endogenous model concerning local capacity-building. First, development should be re-oriented so as to valorise territorial resources (be they physical or human) to retain as much as possible of the resultant benefit within the locality. Second, development is defined by local needs and capacities; popular participation is a key operating principle. Third, development should be tackled in a holistic manner, dealing directly with the inter-relationships between economic, socio-cultural and physical well-being.

### Neo-Endogenous Development

Neo-endogenous development emphasises additionally the role of agencies that operate beyond the locality. While the resourcefulness and resilience of local businesses, households and community groups are crucial, other organisations with national and global connections also have a vital role to play in linking into broader circuits of capital, power and knowledge. Universities are one of these 'gatekeepers': while locally based, they look strongly outward for their research links, funding and recruitment of staff and students. They are in a powerful position to meld the endogenous and exogenous. Much depends not only on the extent and quality of the university's local and extra-local connections, but also on its outlook on knowledge exchange. From a neo-endogenous perspective, the university is not conceived as the source of universal wisdom for communities and businesses. Rather, the university is seen as an active agent that can make and add value to the links between local systems of knowledge and developmental activity and broader national and international circuits of knowledge and expertise.

On the basis of our gathering understandings of what makes rural economies work and flourish, we have been able to influence national and international rural policy in many ways. Indeed part of our achievement has been to help create rural policy as a distinctive and important field of activity and intervention. We would not want to claim responsibility for the entire panoply of Defra, the Commission for Rural Communities, the Rural White Paper, the England Rural Development Plan, European rural policy and the like. That would invite its own hubris. But we have shaped - sometimes decisively so - these and other developments by providing evidence and arguments about the underlying issues and processes of change.

Neil Ward, our current Director, is a past master of this. As well as providing tremendous intellectual leadership, he has ensured that the Centre and its work have been at the forefront of policy debate. For example, his advice more than that of any non-official was critical in the government's decision to recycle some of the EU farm production subsidies to fund the maintenance of the rural environment.

More generally, CRE has been an advocate for the liberalisation of rural economies, reflected in the policy shift from subsidising and regulating production, towards investment in and freeing up the capacity of people, businesses and places for sustainable development. This approach is embodied in the LEADER programmes which have been extensively deployed across the European Union. It has also been taken up by the Organisation for Economic Co-operation and Development (OECD) in what it calls The New Rural Paradigm.

### **Spreading the Knowledge: A University and its Rural Region**

We have been influential, but have we been useful? That is really for others to judge, not least those who take an active interest in the rural life and economy of the North of England. Research in its home region is important in underpinning CRE's wider work on the national and international stage. Here in the rural north it is vital that a research centre has its feet on the ground.

Set up to conduct academic studies of rural development, from the outset CRE sought to do this through engaging with those involved in the practice of rural development. Their knowledge and expertise were particularly valuable at a time when the study of the rural economy was just emerging and when little was known about the non-farming economy. Ever since, an outlook of mutual learning has animated both the thinking and the activities of the Centre.

A key achievement has been the Northern Rural Network which now has over 1,000 members. And here I must pay tribute to Terry Carroll, Nicola Thompson and Neil Ward for building up the Network to be such an influential and useful forum. An annual programme of seminars and short courses is organised that brings together University researchers and those who might be thought of as agents of rural development: local and regional officials, business people, leaders of voluntary organisations, development professionals, and the like. These activities have helped build a shared understanding of the rural challenges facing the North of England.

The Centre has also contributed to many research studies that have informed local and regional decision making. Subjects have included the support needs and marketing strategies of rural businesses; the role of Community IT projects in social cohesion; the development of a local food economy; the role of landed estates in rural development; and the implications of reforms to the Common Agricultural Policy.

A spin-off from this kind of engagement is practical involvement in local and regional development initiatives. For example, CRE staff was active in the establishment of Northumbria Larder and organised the North East's first major Regional Food event at the Baltic Square in Gateshead in 2002, attended by 12,000 people. And Liz Charles, another of our PhD students, is doing an action-research project initiating community-supported agriculture in County Durham.

How do these experiences inform our understanding of the relationship between the University and its rural region? There has been an explosion of university-led regional development initiatives over the past two decades, ranging from technology transfer programmes to projects fostering social enterprise and creating regional cultural identity. The predominant focus has been on urban regeneration, in what might be thought of as a renewal of the civic or extra-mural mission of provincial universities. While this is a laudable movement, it has pursued a rather constricted view of the scope of the relationship between universities and their localities.

Rural development has figured very little, if at all, in this movement. That raises questions of the universities' wider geographical responsibilities – to their regions and their rural hinterlands. This is not just an issue of geographical equity but also of the effectiveness of universities as territorial agents of regional and national development.

## Universities and knowledge transfer

Rural development tests the commitment of the modern civic university to the promotion and wide dissemination of learning. Even so, many universities around the world were founded with the specific intention of facilitating the development of predominantly rural regions. Indeed, the oldest tradition of self-consciously organised knowledge transfer between universities and their geographical hinterlands is rural or farm extension – the process of organising the communication and application of science to practical agriculture – which began in the USA in the late 19<sup>th</sup> century. Rural extension provides a wealth of experience in how to pursue knowledge transfer. It was in this context that the so-called ‘linear model’ of knowledge transfer was first developed. As we have seen, its particular approach to science application and technological diffusion was rooted in an exogenous model of development. Even so, it did aim to transfer knowledge beyond intellectual elite to people who could make some use of it.

Implicit in the linear model is a sequential staging, from the conduct of research in the laboratory leading to scientific discoveries and technological breakthroughs which are then disseminated to potential users. The process is envisaged as unidirectional. Knowledge users are construed as inexpert and passive with nothing worthwhile to contribute to the research process. The gulf between researchers and users of research is transcended at the end of the research, when science outcomes are popularly communicated or technologically diffused, and the scientists are forced to speak in language that users can understand.

The continuing reliance on a linear model of knowledge transfer is potentially problematic for universities seeking to develop extensive regional engagement activities. There is a need for a more adequate theory of universities, knowledge transfer and local development. To a large extent rural areas have been test-beds for such new ideas. What lessons are they yielding?

Firstly, conventional approaches to knowledge transfer are often technology-centric, emphasising new pieces of kit or equipment. They downplay applications of research and knowledge that result in changes in procedure, practice or policy – what we might term *soft innovation* (as opposed to hard technology transfer).

Secondly, traditional models underplay the social practices in which technologies and procedures are themselves embedded. Innovation is better conceived as involving *coupled socio-technical change*.

Thirdly, acceptance that amongst non-researchers there is widespread expertise means that the successful generation and diffusion of knowledge and techniques typically involves an iterative process, built on adaptations, and extensive feedback of ideas and experience, ie *knowledge exchange* rather than knowledge transfer.

Finally, emphasis is too often on formalised knowledge transfer based upon IP (intellectual property) contracts and commercialisation. Effective transfer of ideas and information is more usually built upon soft knowledge exchange through multiple channels, including informal networks, and the transfer of people between research and practice. Understanding the role of '*soft connections*' and *networks*, and the part played by intermediaries (*knowledge brokers*) is paramount.

Let me share with you an example of how we are applying this latest thinking on knowledge exchange in running a major research programme called Relu. That stands for Rural Economy and Land Use. It's a £25 million national research programme coordinated here from the Centre for Rural Economy and it builds upon strong traditions of conducting strategic interdisciplinary research by Newcastle's agricultural economists and food marketeers. Funded by three research councils, Relu supports interdisciplinary research on the following strategic challenges facing the countryside:

- restoring trust in food chains
- tackling animal disease in a socially acceptable manner
- sustaining agriculture in a liberalised economy
- promoting robust rural economies
- mitigating threats from climate change and invasive species
- reducing stress on water catchments

Relu begins with several advantages: firstly the programme can draw on good practice being carried out across the various research councils but it is also well positioned to trial and demonstrate new approaches.

Relu's commitment to interdisciplinarity helps to avoid the trap of approaching problems from a purely technical or sociological perspective. When social and natural sciences work separately, they often fail to appreciate the value of each other's contribution. Social science involvement is all too often incorporated at the end of a project, in an effort to smooth out social constraints that stand in the way of technical advances or to address unintended impacts. Equally, social scientists may incorporate naïve models of environmental and technological possibilities into their analyses and projections of social and economic change.

The interdisciplinary approach adopted by Relu, however, brings the knowledge of different disciplines into a positive dialogue. It moves away from simplistic assumptions about “technology push” or “society pull” providing the overriding drive for innovation, and combines social and technical processes. Above all, it highlights the need for new technologies that go with the grain of social change, and for social innovation that creatively exploits technological possibilities.

Relu is also committed to engaging stakeholders throughout the research process. We do not assume that the scientist is the only source of knowledge and expertise, but facilitate sharing of knowledge between researchers and a range of practitioners, businesses, policy makers and wider publics. Stakeholder engagement at all stages - from identification of research questions, the conduct of the research and dissemination of the results - helps ensure that the Programme is responsive to policy and practice and societal concerns throughout. The result is a continuous and two-way process of knowledge exchange, not just knowledge transfer.

### **Principles of Knowledge Exchange**

- An iterative process in which stakeholders are engaged as active partners in establishing the focus, priorities and conduct of research
- A two-way exchange of ideas, intelligence and understanding between scientists and stakeholders
- Embraces a pluralistic and inclusive notion of stakeholders encompassing policy-makers, practitioners, businesses and the public
- Acknowledges that soft knowledge exchange through informal networks between research and practice can be more important than impersonal forms, such as the commercialisation of knowledge or evidence-based policy making

The notion of knowledge exchange dissolves the sharp distinction between knowledge production and knowledge transfer. The programme’s up-front stakeholder engagement has helped it build extensive soft networks for knowledge exchange. Relu’s work shadowing scheme, for example, allows researchers to work alongside staff inside commercial organisations, voluntary bodies and public agencies, in the action-contexts in which their research may be used. Hosts so far have included the Environment Agency, the Pesticides Safety Directorate, RSPB, a commercial fish-farm, a food company, and a landed estate. In 2007 the programme also introduced a Visiting Fellowship scheme for stakeholders to join a research team for a period.

David Stewart, for example, a prominent facilitator of the voluntary sector in the North East is a visiting fellow on the research project 'Angling and the Rural Environment'. While immersing himself in the life of the project, David is doing sterling work drawing on his contacts as Chairman of the Regional Fisheries Ecology and Recreation Advisory Committee to help the researchers to connect with the environmental and developmental agencies concerned with the role of angling in the rural economy. While this illustrates the building of soft networks locally for knowledge exchange, another example takes us from the local to the global and back home again.

Frances Rowe, head of rural development at One NorthEast, used the connections she made through Relu to link up with and visit North American researchers to compare international experience in the promotion of local food economies, gleaned ideas that she has subsequently been putting into practice here in the North East, and we too have been pursuing through action research.

These examples in their different ways touch upon the topic of the moment - land use. Land use is being driven up the political agenda by public concerns over climate change, flood risk, food security and sustainable energy supplies. Many of the issues of concern are being covered by ongoing Relu research and so we have seized the opportunity to set a strategic land agenda for the UK – a debate where I would like to think this region could take the lead. Already, the Relu initiative has influenced the government in setting up Land Use Futures project. The Programme has also taken the issue into the public arena, with an on-line debate for Science Week kicked off by Secretary of State Hilary Benn, and in which over 4,500 people took part.

This new approach to knowledge exchange represents a model for the future, as universities and their regions actively collaborate over the challenges they face. If universities are to be central to regional intelligence systems it is important that they rid themselves of the hierarchical outlook that lies behind much of the effort on knowledge transfer. Pressing problems call for adaptive learning, involving a partnership between researchers and civil society.

No problem is likely to be more pressing than how do communities, businesses, cities and regions respond to climate change. Land, the way it is used and managed, is central to rational adaptation to climate change. In seeking to pursue the issue of strategic land use and climate change we are looking to collaborate closely with regional development and planning agencies, farmers and landowners, and businesses and local communities.

This is a topic that would have captured the imagination of the 10<sup>th</sup> Duke of Northumberland, and I trust that he would have approved – and you my audience (and readers) also - of our efforts to combine endeavour and enquiry creatively.

## References

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 Centre for Rural Economy, Research Report, University of Newcastle.