

W(h)ither rural: new canons for old?

A lecture to mark the inauguration of the
Countryside and Community Research Institute

Delivered by Professor Nigel Curry
Director of the Countryside and Community Research Institute

April 2008

1. THE LECTURE IN OUTLINE: ESTABLISHING SOME RURAL CANONS

This lecture explores a number of established principles, or canons, that have grown up around the development of the two dominant planning systems for the countryside of England since the Second World War: land use planning and agricultural planning. After describing the most significant canons of the two systems and their interrelationships, the lecture goes on to focus on a set of developed canons that have determined the nature of the rural land use planning system. The limitations of these canons for contemporary rural sustainable development are outlined.

From this point, the lecture goes on to propose four ‘new’ canons as more appropriate ways by which to steer rural change, in the areas of rural economies, rural communities, agriculture, and land use planning. The lecture concludes by illustrating how these new canons are being developed and refined through specific research projects conducted by the Countryside and Community Research Institute.

It is important throughout this lecture to note that the critique offered is of a dominant *culture* in countryside planning, born of the exceptional and abnormal historical conditions of a wartime economy. It is not a critique of any of the particular actors who find themselves playing out their roles today within this established culture.

2. THE BIRTH OF COUNTRYSIDE PLANNING: BUILDING WARTIME CANONS

The big wartime rural canon was that there should be ‘no development’ in the countryside. This was built in the following manner.

The Barlow Commission reported in 1940 on the *Redistribution of the Industrial Population*. Barlow had the clear intention of developing a post-war economy in which economic activity would be more equally distributed across Great Britain and not just concentrated in the South East as it had been before the war. His proposals were to move economic activity in a more dispersed way, but only to *urban* areas in the Midlands, North West and North East and indeed South Wales. There was to be no development in the countryside and a new planning system based on the *regulatory controls* of planning permission within the context of a development plan would ensure both the location and environmental quality of development. Effectively, development rights were nationalised without compensation.

The Scott Committee (on *Land Utilisation in Rural Areas*) reported in 1942¹. This was a time of blockades and food shortages during which Scott was charged with charting future land uses in a post war rural Britain. Not surprisingly, at the time strategic food imperatives were central and in putting forward the maxim that ‘every agricultural acre counts’, all other kinds of development in the countryside outside agriculture were to be clearly resisted in the push for more food. A ‘clear national need’ would have to be shown for any development other than agriculture and Barlow’s proposed planning system would ensure that no unnecessary development took place. A much more powerful, if less strategic, economic planning system was thus proposed for rural resources with (by and large) no nationalisation of development rights.

Figure 1 – Barlow and Scott compared

	BARLOW	SCOTT
Purpose	Redistribute the industrial population	Make ‘best’ use of land in rural areas
Intention I	Move economic activity away from London to other urban areas	Increase food production
Intention II	Prevent development in rural areas	Resist all (non agricultural) development in rural areas
Means I	A strong regulatory planning system without compensation	A powerful (but not strategic) system of economic incentives
Means II	Nationalisation of development rights	Exempt agriculture from the nationalisation of development rights
Key Value I	Steer development	Prosperous agriculture
Key Value II	Environmental quality	“Every agricultural acre counts”

And so the canon was established. These two reports provided the principal architecture for post war legislation, which established these two *distinct* planning systems for the countryside. Other planning systems, for transport and environmental health, for example, came later. A regulatory Town and Country Planning system has been remarkably successful in its own terms at resisting development in the countryside. An economic incentives-based agricultural (and forestry) resource planning system also

¹ Exemplifying the Scott Committee’s predisposition towards the no development ethic in the countryside, a majority of the members of the Scott Committee also were members of the CPRE

achieved its narrow sector-based objectives remarkably well. By the mid 1980s, the nation (and indeed Europe) was producing far more food than it could possibly consume. But in meeting their own objectives fully, the two planning systems created the following casualties.

- A rural single sector (agriculture and forestry) economy developed, which has been in economic decline for the past 20 years. This inevitably created a countryside with low rural wages and a narrow economic base.
- Low wages and a narrow economic base led to rural out-migration of people in search of higher urban wages.
- The ‘no development ethic’ restricted rural housing supply causing house price rises beyond the reach of rural wages. Housing was therefore ‘taken’ by higher urban incomes for commuting or second homes. Socially, culturally and economically, by this means, the countryside became undeniably urban (Newby, 1991).
- Rural out-migration and restrictive housing supply caused decline in rural services.
- A lack of planning controls over agriculture led to an environmental crisis up to the mid 1980s.
- There has been, and remains, a phenomenal Exchequer cost of agriculture to achieve overproduction.

This dual countryside planning system therefore did much to damage the economic (and social, cultural and environmental) welfare of rural areas through the principal rural canon: the ‘no development’ ethic. To what extent is this canon sustained today?

3. COUNTRYSIDE PLANNING TODAY: SOME CASUALTIES OF THE WARTIME CANON

The foregoing analysis is informed by the benefit of hindsight, but has the development of countryside planning since the war moved to integrate these two planning systems and dismantle the ‘no development’ ethic? Three broad policy strands suggest that the two planning systems are as far apart as ever.

3.1 Agricultural planning is still used to plan the countryside

There was hope of some integration of these two planning systems with the 2000 negotiations over the CAP (Agenda 2000) and the 2000 Rural White Paper. The former, in introducing the England Rural Development Programme under the Second Pillar of CAP was, in principle, to take rural

development beyond the farm gate. The 2000 Rural White Paper buttressed this by proposing the joint planning of countryside programmes (between the then DETR and MAFF) with joint countryside objectives and joint countryside programmes, and with increased money for integrated rural policy development from the Comprehensive Spending Review.

Foot and Mouth Disease (FMD) effectively put a stop to all that, however. The Curry (2002) Commission on Sustainable Farming and Food, one of the post FMD reports, was to rebuild agriculture around environmental and business sustainability: the key principles of the Second Pillar of CAP. Ward and Lowe (2007) claim that this allowed agriculture to ‘recapture’ Pillar II at the expense of broader rural development. It found favour with both the agriculture and environmental lobbies simultaneously – both stronger lobbying voices than those for broader-based rural development.

As a result, only 4% of the £1.6 billion of Pillar II funding (itself only 18% of the CAP budget) went to non-farming and forestry development between 2000 and 2006. In the 2007 – 2013 Pillar II programme, only 10% of funds are allocated to “Enhancing Opportunity in Rural Areas” and most of this will remain within agriculture (Lowe and Ward, 2007). By 2006, for example, only 1.6% of CAP in England did not go to farmers.

Thus, agriculture remains firmly planned by powerful economic interventions (46% of the total EU budget was still spent on agricultural support in 2005), which still very much support the notion of agricultural autonomy in the countryside. Direct support to agriculture in England since Foot and Mouth Disease has been of the following order.

Figure 2 - agricultural support in England, post foot and mouth disease

	2003	2004	2005	2006	2007
Agricultural subsidy to farmers (£ million)	2,759	2,945	2,996	2,995	2,960
Total income from farming (£ million)	2,839	2,556	2,171	2,303	2,538
Agriculture’s contribution to the economy (gross value added)	0.8	0.7	0.5	0.5	not yet available

Source: <http://statistics.defra.gov.uk/esg/publications/aug/default.asp>

Despite this economic planning system, agricultural subsidy has been greater than total income derived from agriculture since 2004, agricultural

employment is less than 1% of all employment (and only 2.3% of rural employment), and the contribution of agriculture to Gross Value Added measures of regional productivity does not even register statistically (Webber *et al*, 2008).

In sustainable development terms, the OECD (2005) notes that the total cost of the CAP to EU citizens is about €100 billion a year, half of which is borne by taxpayers and half by consumers as a result of higher food prices. Further, the €50 billion annual cost to consumers that arises from higher food prices falls disproportionately on the poorest in society as they spend a much greater proportion of their income on food (Treasury and Defra, 2005).

This is of course not to criticise farmers for the valuable role they have to play in both food production and environmental protection, but rather, it does suggest that a single sector and insular economic planning system is not the best way to plan agriculture. It is the prevailing culture that is problematic, inherited from the Second World War context, within which all rural planning is situated.

3.2 Portfolio battles have fragmented the coherence of rural policy

The 1986 Agriculture Act

The constancy of the ‘no development’ ethic since the 1947 Act was broken by the 1986 Agriculture Act, which sought to tackle the problem of food surpluses and the significant environmental damage to the countryside that the production of these surpluses had caused. The two separate rural policy strands (set running by Scott and Barlow), were causing increasing tensions during the 1990s between MAFF and the Department of the Environment. Each claimed primacy over ameliorating the environmental impacts of agriculture and each also felt they should take charge of diversifying agriculture away from maximising food output. The agricultural planning system was seeking to wrest the environmental portfolio from the land use planning system.

An opportunity for harmonisation came with the incoming New Labour Government of 1997. Tensions between agriculture and rural development (the two planning systems) would be resolved with a new Ministry of Rural Affairs, it was envisaged. But as part of this Ministerial restructuring, John Prescott, in charge of an enlarged Department of the Environment, Transport and the Regions, successfully resisted this. His portfolio

contained regeneration, and this included rural, as well as urban areas (Ward and Lowe, 2007).

Defra

The rekindling of a Department of Rural Affairs in 2001 led to the now widely reported (Ward and Lowe, 2007, Greer, 2007) negotiations by Margaret Beckett for an enlarged portfolio to give her a stronger cabinet position. Including 'environment' in this Department was to have a significant impact on the two rural planning systems. The very genesis of the town and country planning system, environmental quality, had now been 'captured' by the agricultural planning system.

Further, this new Department of the Environment, Food and Rural Affairs (Defra) would inevitably residualise rural policy. With agriculture being run in large measure from Europe, Defra's priorities became the 'big' environmental issues of sustainability and global warming. As Ward and Lowe (2007) note, while the intention of a Department of Rural Affairs had been to raise the profile of rural policy, the Defra that came about had the opposite effect.

Haskins

In an attempt to 'sort out' the rural portfolio, the Haskins Review (2003) made proposals to rationalise the *mechanisms* of rural delivery and administration. That the review was not about rural areas or rural policy reinforced the primacy of the Curry report: agricultural policy was strong, directive, sectoral and well funded; rural *policy* was largely missing. The subsequent Defra (2004) Rural Strategy was a misleading title in that it majored on rural administration rather than rural areas. The RDA's Regional Rural Strategies compounded this.

3.3 Town and country planning is still urban

With the move of the town and country planning system into the Department of Communities and Local Government (DCLG) in May 2006, it was poised for a substantial structural overhaul with the Barker Review (DCLG, 2006b) but also it became seated in an overwhelmingly urban Department, and detached from its environmental genesis. DCLG's first White Paper, on Local Government (DCLG, 2006c) stressed the importance of cities in their regional context and offered the 'city region' as an appropriate level at which to devolve power. The ODPM's preparatory working paper series envisaged the city-region as essentially an 'urban' phenomenon (see figure 3).

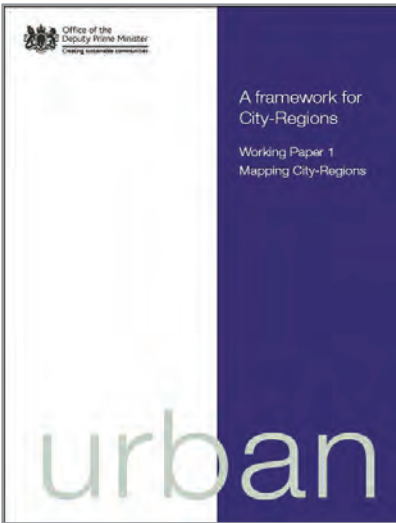
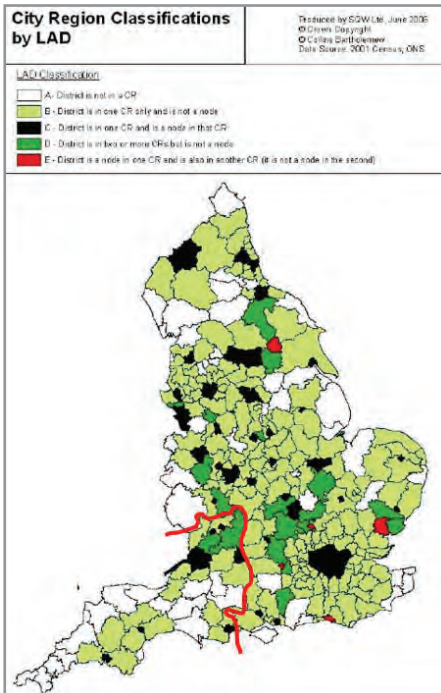


Figure 3 – ODPM (2006) – the city region as an urban phenomenon

The resultant Local Government White Paper did little better. The word ‘rural’, articulated in the White Paper only eleven times in 171 pages, was effectively removed from the notion of territorial planning. By 2007, Defra had begun to map out city-regions, and the map of the South West RDA indicates that over 50% of the region does not fall into city region at all. For the first time since the beginning of the 1970s much of the countryside, in the South West at least, was classified as ‘white land’ (see figure 4).

Figure 4 - City Regions and the South West RDA area by district authority



(Source: SQW and Cambridge Economic Consultants 2006, page 14)

This is reflected in both the Regional Spatial and Regional Economic Strategies too, which are generally based on city nodes. As Lowe and Ward (2007) note, the sponsoring Departments of the RDAs, (the Department for Trade and Industry, Office of the Deputy Prime Minister, and the Treasury), in being preoccupied with GVA measures of economic performance, have naturally focussed their attention and investment priorities towards urban renaissance and infrastructure, in the knowledge that, in the main, GVA measures of productivity are higher in urban, rather than rural areas.

This urban orientation has led to two responsive policy strands from the Commission for Rural Communities and Defra respectively that have an air of hopeful ubiquity about them. The first is ‘rural proofing’. Whilst laudable, this is a very broad and blunt instrument to accommodate specific rural needs. It is unlikely that absolutely all policies need to be rural proofed. More importantly, the rural interest needs to be accommodated in the formulation of policies, *ex ante*, and not in monitoring their rural effectiveness *ex post*.

The second and perhaps more worrying strand is ‘mainstreaming’. Again, whilst the intentions are good, mainstreaming rural into an urban-based territorial policy is as likely to hide it as bring it to the fore. Mainstreaming ‘weak’ rural policy into areas such as housing, employment, transport and health is likely to consign it to being a ‘subservient’ policy. The logic of mainstreaming rural in (certainly parts of) the South West, for example, is to make *all* policies rural, rather than ‘ruralise’ part of all policies. Outside of the city-regions, rural *is* the mainstream.

Given that there is still much of the culture of the ‘no development ethic’ canon in contemporary rural policy, how is this specifically played out in the territorial land use planning system?

4. LAND USE PLANNING: SOME SMALLER, BUT ENDURING, CANONS

In exploring this issue, seven contemporary rural land use planning canons are reviewed in this section.

Canon 1: every agricultural (or indeed environmental) acre still counts - development on rural land generally should be resisted

Two of the four cornerstone PPG/Ss for rural areas are PPS1 (ODPM, 2005), *Delivering Sustainable Development*, which sets out the principles of the land use planning system, and PPS7 (ODPM, 2004), *Sustainable Development in Rural Areas*. Their principles for the countryside are as follows. This rhetoric is repeated throughout all PPS/Gs.

“Planning shouldconserve the countryside and open spaces that are vital resources for everyone. But poor planning can result in the loss of our finest countryside to development.”

PPS1 (ODPM, 2005), paragraph 1.

And

“The Government’s overall aim is to protect the countryside for the sake of its intrinsic character and beauty, the diversity of its landscapes, heritage and wildlife, the wealth of its natural resources and so it may be enjoyed by all”.

PPS7 (ODPM, 2004) Paragraph 1iv

Before the finer grain of this canon is examined, four issues are worth noting.

- The language has an inherent predisposition: *“the loss of our finest countryside to development”* considers that it is axiomatic that all development in the countryside is an environmental detractor. This is considered further in canon five below.
- It is not clear enough why the countryside should be protected for its own sake. As Lowe and Ward note (2007) we need to be more specific about whether the aim is to protect wildlife habitats, special landscapes, agricultural land or something more ethereal and intangible than these.
- The enjoyment of the countryside by all is a misnomer. Since 1977, people have been staying away from the countryside in droves. This is not to do with Foot and Mouth: it far pre-dates this and it has accelerated since Foot and Mouth too. Between 1998 and 2002/03, all day trips to the countryside declined by 12% (GB Day Visits Survey, 2004) and between 2002/03 and 2005 by a massive 45% (Natural England, 2007).
- The canon makes no economic sense. As England moved from the height of food overproduction in the mid 1980s, falling food outputs led to a reduction in demand for factor inputs, one of which was land. From 1992, it was *compulsory* for farmers to set aside at least 8% of their land from food production and to be paid for doing so. Compulsory set-aside was reduced for 2008 to 0%, but is being monitored to ensure that not too much land comes back into production (Defra, 2008). To be paid to leave land idle is as clear an indication as it is possible to receive of a significant rural land surplus.

Detractors from the rural land surplus thesis offer two main arguments. The first is, now that much farmland is subject to agri-environment schemes, this land must be retained for environmental reasons. But here, the OECD (2006) suggests that this remains largely unquantified (how

much environment do we need to retain?) and uncosted (what in particular is the opportunity cost of such environmental policies?).

The second argument is that we need to retain a land bank capable of reverting to agriculture in case of future food crises. Certainly, this kind of notion requires a risk assessment, but land take for the built form need not be that large to accommodate considerable amounts of new development. Other factors that weaken this argument are as follows.

- In Europe we have achieved considerable increases in food output since World War II, not with any increases in agricultural land (indeed, CPRE have charted considerable land losses from agriculture over this time), but rather through increases in *capital* inputs to agriculture. Land is not the principal determining factor for increasing food output, capital is. This is the false assumption behind set-aside policy.
- Although currently unpopular, biotechnology offers potential into the future to produce food without land at all. Whilst GM crops engender considerable public concern at present, would, for example, the possibility of producing GM tomatoes that can prevent cancer be quite so strongly resisted?
- Other forms of food production, such as organic, have a potential to be delivered at a much smaller scale than current agriculture. The development of allotments, back garden produce and local food exchanges, would allow the *integration* of food production with development, making much more effective use of smaller parcels of land. Indeed, expenditure on garden products in England and Wales exceeds that of either agricultural support or total agricultural income at around £5 billion pounds a year (Horticultural Trades Association, 2008).

Even in the context of increasing wheat prices and increasing demands on agricultural land for ethanol production, an economic case needs to be made for how much land should appropriately be retained in agriculture. What is the balance to be achieved between land uses relating to food production, non-food crops and conservation? And if choices are to be made between these three, what is the economic case for excluding development from these choices?

Canon 2 – sustainable development must be urban development

The other two cornerstone PPS/Gs for rural areas are PPS3 on *Housing* (DCLG, 2006a) and PPG13 on *Transport* (ODPM, 2001). These offer a

corollary to the 'no development in the countryside' canon by, together with the overarching PPS1, clearly defining sustainable development as urban development.

The first strand of 'urbanisation' here is to reduce the need to travel generally (PPG13, 3) and particularly by car (PPG 13, 4), to make it easier for people to access workplaces, shopping and services (PPG 13, 6) to increase the use of public transport (PPS1, 27viii), to encourage more walking and cycling (PPG13, 5) and to reduce carbon emissions from transport (PPS3, 37). All of this should be used to manage patterns of *urban* growth (PPG1, 27, vii).

A second strand of 'urbanising' sustainable development is about increasing development densities. It is a general planning principle (PPS1, 27 viii) but is a particular emphasis for housing development (PPS3, 47).

The third 'urbanising' strand is concerned to maximise development on Brownfield land (PPS1, 27, viii). It is considered that as well as maintaining high development densities, this approach will ensure access to jobs, services and community facilities (PPS3, 36) as well as protecting Greenfield areas.

These precepts are all echoed in the rural 'champion' PPS, PPS7, *Sustainable Rural Communities* (ODPM, 2004), which adds:

- avoid Greenfield development to protect the open countryside (objective i);
- focus on the benefits of development on the fringe of urban areas (objective ii);
- allow development in existing towns and villages only where it benefits *local* (authors italics) needs and enhances the environment (PPS7, 1); strictly control new buildings in the open countryside (PPS7, 1).

In putting this sustainable development into practice, Gordon Brown announced as Chancellor of the Exchequer in May 2007 the Government's commitment to build 5 *eco-towns*. These are to contain up to 100,000 low carbon or carbon neutral homes powered by locally-generated energy from sustainable sources and are to be built on old industrial Brownfield sites (Guardian, 2007).

There are significant consequences of this canon for rural areas.

-
- Firstly it effectively residualises the countryside as a theatre for sustainable development. This can only further restrict the potential for economic social and environmental well-being in rural places.
 - Secondly, it defines sustainable development as territorial rather than systemic and therefore overlooks all of the natural resource advantages of rural areas (food, timber, energy) for achieving sustainable development goals.
 - Thirdly it assumes that private travel, rather than more narrowly the internal combustion engine, is the *bête noire* of environmental pollution – relatively disadvantaging the rural population.
 - Fourthly, it assumes that Brownfield land is inherently more appropriate for development than Greenfield land: again, rural areas lose out.

These latter two are given further consideration in canons 4 and 6 below.

Canon 3: economic development in the countryside is still not to be encouraged

The core of this canon is that PPS7 (*Sustainable Development in Rural Areas*) is much less about the development of the economy than PPS 3 is about *Housing*. In other words, for rural areas, development policy is driven more by *strong, prescriptive and restrictive* housing policies than by *weaker and discursive economic development* policies. For rural areas, housing policies in PPS 3 are clearly restrictive and should be driven by:

“affordable housing and rural exceptions policy in the context of general policies of restraint” with housing to accommodate *“households who are either current residents or who have an existing family or employment connection”* (PPS3, 30).

But economic development is more ambivalently expressed. It will be driven by sustainable development principles and *“the need to protect the wider, largely undeveloped countryside, for the benefit of all”* (PPS 7, 5).

For the welfare of rural people, however, housing-led development is precisely the wrong way round. There need to be clearer policies about where people are to *work* before considering the housing that should most appropriately support this economic activity. This is at the core of sustainable development.

If national housing policy does not allow housing development in rural areas in any measure, then it becomes impossible to develop a sustainable economy in those rural areas.

Sustainable rural areas should be driven by economic development which in turn should drive all development policies. Appropriate housing should be integrated with this. This is entirely feasible, as many of the main growth sectors in the UK economy are becoming increasingly aspatial. Many service and e-commerce sectors are relatively footloose and could be located in Britain's most pleasant environments as easily in the new high-density urban areas.

There are two downward spirals in this restrictive rural housing canon. First, if housing is allowed in rural areas only where there are *existing* employment connections, then opportunities for employment will ossify. Secondly, if a lack of services is seen as a reason for blocking development, then there is no means of rekindling those services.

In fairness, the latest PPG 1 and PPS 3 have improved over earlier versions in allowing the principle of more 'flexible' approaches to rural development, seemingly in acknowledgement of the Barker Review of Land Use Planning (DCLG, 2006b). PPG1 allows the promotion of urban *and rural* development for community well being (para 27ii). PPS 3 allows development in villages "to enhance and maintain their sustainability" (para 38), and:

"support informal social networks, assist people to live near their work and benefit from key services, minimise environmental impact and, where possible, encourage environmental benefits" (para 38)

But in general terms why should we still wish to restrict housing (and indeed economic) development in the countryside in this way? This is because of other deep seated canons.

Canon 4: we must not develop on Greenfield sites

The clear Government priority for development in all PPG/Ss is, wherever possible, to develop on Brownfield (or previously developed land as it is officially known) rather than Greenfield sites. The national annual target is that at least 60 per cent of new housing should be developed on Brownfield land (PPS3, 41). The reasons for this can be inferred but are not clearly stated: they seem to be to allow the maximisation of development densities (so as to reduce CO₂ emissions), and to protect the 'open' countryside (presumably because of its environmental value).

But this kind of classification is rather too blunt an instrument by which to make such decisions for at least four reasons. Firstly, there is no reason why development on Greenfield land cannot be just as dense as on Brownfield land. Minimising CO₂ emissions has less to do with the location of development than the use of the car. There is in fact nothing that can be done on Brownfield land that cannot be done on Greenfield land to achieve exactly the same density results. It is not the 'colour' of the land that determines densities, but rather its location. And since the location of all land is unique, a common, single blanket policy for all land in England is simply inappropriate.

Secondly, in terms of environmental value, on the one hand much derelict developed land has evolved into a rich ecological base, precisely because of its lack of management. In the West Midlands conurbation, a number of Local Nature Reserves have been designated on such sites, greater in number than those created in the rural parts of the West Midlands RDA. On the other, much agricultural land, particularly that which has been subject to intensive arable production for long periods, is in a somewhat poorer environmental state. Successive use of fertilisers, pesticides and herbicides has gone hand in hand with the loss of cover, hedgerows, trees and other field boundaries and the associated wildlife that resided there. It is impossible, again in blanket terms, to say which colour of land has a greater environmental value.

Thirdly PPS7 (28) does note that if there is to be any development on Greenfield land, priority should be given to the lower grades of agricultural land (3b, 4 and 5). The problems here are twofold. Firstly, the agricultural land classification is derived from the *productive* rather than the environmental value of the land and is therefore a poor guide to its developmental value as Greenfield land. Secondly, the classification ignores where the land is. The most 'developable' land in these terms is often in the least accessible locations.

Finally, there is a simple dynamic to the Brownfield/Greenfield land debate: as more Brownfield land is used up, the less of it there is to develop and therefore the canon will have to be modified.

The general point here is that the environmental value and potential of all land must be considered in any assessment of the most appropriate location for new development, rather than a blanket priority being given to previously developed land.

Canon 5: buildings impair the environmental quality of the countryside

The predisposition in PPS1 (ODPM, 2005) is that the planning system must guard against “*the loss of our finest countryside to development.*” (para 1). But on examination of the national data on where people go in the countryside for enjoyment, it is manifestly clear that people *love* development in rural areas. Despite the considerable downturn in overall countryside trips, we still flock to Stow on the Wold, Widecombe in the Moor, Grassington, Lavenham, Hutton le Hole and the like, precisely because of the outstanding quality of their built environment. We go to these places far more than the open countryside. The 2005 British Social Attitudes Survey (NCSR, 2007) also notes what whilst 18% of the population claims to live in the countryside, some 55% said that they would like to – it is a healthier environment to live in all round.

But this is the popular countryside image, of villages built with care in their own surroundings, making use of local materials, accommodating siting, design and layout based on local knowledge. And most importantly, all of these villages have been founded on a clear economic purpose.

Here is the crux of the problem of development in the countryside. We actually love it, but for a large part of the time since the war we have done it appallingly and this has reinforced a popular distaste for countryside development.

Post war buildings in the countryside, where they have been allowed, have been abysmal; dominated by suburban estates and cul de sacs of a standard and uniform design, stuck on the edge of villages and acknowledging none of the characteristics of their locality. The ‘no development’ ethic in the countryside has occluded any clear sense of good rural design, and also any need to train people in this specialist area.

We have been so bad at rural design that the same British Attitudes Survey (NCSR, 2007) that notes that more people would like to live in the countryside, also suggests that three quarters of the population thinks that the countryside should be protected from development and that new housing should be urban rather than rural.

In truth, the latest round of PPS/Gs stresses the importance of good design in all development (PPS1, 33 – 39; PPS7, 1; PPS3, 16), but what is meant by ‘good design’ as a planning criterion seems to focus on accessibility to public transport, services and amenity space, good car

parking and an efficient use of resources (sustainability criteria), rather than the critical role of locality. None of the PPS/Gs provides any insight into what might constitute good *rural* design.

So people are not opposed to development in the countryside *per se*, but rather, and rightly so, its quality. Certainly, we need to continue to improve this quality so that it actually makes a positive rather than a negative contribution to the rural environment.

Canon 6: resisting development in rural areas will minimise travel patterns

Minimising travel patterns is a canon in all four of the pivotal PPS/Gs that impact on rural areas. This simply means, however, that the place of living and the place of work, schools and services should be close together. It does not mean that this place has to be an urban one. To quote the current Gloucestershire Structure Plan:

“the important consideration is to have people close to their place of work. This could be corrected by providing more jobs in rural areas or more housing in employment centres. Employment development must be accompanied by new housing”. (GCC, 1999, paragraph 7.2.6)

Restricting development in rural areas does not necessarily pursue this objective. In North Gloucestershire for example, 70% of all commuting over 10 km is between the main towns of Cheltenham, Gloucester, Stroud, Tewkesbury and Cirencester. This largely reflects house price differentials relative to employment opportunities, and the prevalence of households with a number of working people in them, who work in different locations. Housing development in rural areas, even with the current location of economic activity, might reduce these commuting patterns.

Such ‘sustainable’ transport policies unrealistically disadvantage rural areas in two main ways. Firstly, it is assumed that reductions in private vehicle use and particularly the use of the car are at the core of sustainable transport policy. The car is not inherently problematic, however; it is the combustion engine. The development of other forms of private transport based on renewable energy undermine such arguments against the car *per se*. And even with the combustion engine, just 12% of the average household’s CO₂ emissions is accounted for by private vehicle use (Defra, 2006). In this context, Bannister (2002) feels that rural areas have been made a scapegoat.

The second disadvantage is that sustainable transport policies in all of the PPS/Gs are inherently 'weak' policies. Priority can be accorded to public transport, walking and cycling, but this will not *per se* lead to these being priorities for individuals. Such policies can no more control travel patterns in urban areas than in rural ones.

Canon 7: conserving the heritage is about the past

Finally, related to an inability or reluctance to use built development to enhance the rural environment is the way in which responsibilities are discharged towards conserving heritage. This is a general principle for both rural and urban areas alike across most PPG/Ss but is, for example, a statutory duty in the national parks. Key to this issue is that the consideration of heritage is not just about conserving yesterday's heritage for today, but about creating today, a heritage for tomorrow.

What will our children say were the greatest built forms in rural areas of the early 21st century? It would be a shame if the answer to this was 'nothing'. Just as our forebears have done, we have a responsibility to pass on a rural built heritage to our children, and this will require courage and vision. This could include the majesty (for some) of wind farms or the splendour (for many) of the Eden Valley project in Cornwall, but it is necessary to be open to having a visionary approach.

In what is now the Peak District National Park, when the train came to Bakewell, in the middle of the 19th century, a viaduct was constructed across a valley south of the town. There was organised formal protest when it was built, claiming it to be a scar on the landscape. In the 1970s, when it was proposed to pull it down after rail closures, there was an even bigger protest, claiming it should be kept as it was a thing of beauty and a record of our past (Lowe and Goyder, 1983). It is essential to acknowledge these bold developments.

5. NEW CANONS FOR OLD?

As a result of this assessment, four 'new' canons are offered here for the enrichment of countryside planning and more importantly, rural areas themselves.

- Canon 1: For *rural economies*, rural areas must have a broad economic base, tailored to local circumstances and harnessing new technologies fully.

-
- Canon 2: For *rural communities*, all policies need to be people-centred, focusing on employment and training in a wide range of skills with housing policies that fully support the employment base which in turn will support rural services.
 - Canon 3: For *agriculture*, reduce support for basic food production and direct a smaller support regime towards farmers who protect and sustain the environment (linking their production to local markets and minimising waste) in an integrated way with food production.
 - Canon 4: For *planning*, policies should adopt a positive stance towards appropriate development with the aim of improving the sustainability of rural environments and communities; this should include planning controls over agriculture.

But these proposals are not those of the author.

One member of the Scott Committee of 1942 (the genesis of much of the critique of this lecture), Professor Dennison, an economist at University College London, was so concerned about the economic illiteracy of the Scott Report that he wrote a minority report within the main Report, almost completely at variance with Scott's proposals. He predicted all of these consequences of Scott's canons more than 65 years ago, that have been the focus of this lecture. The main rural problems will come, he foretold, from the *lack* of a solid and diverse economic base in the countryside, rather than from the development of one.

For *rural economies* he said that diversification of the rural economy was essential because dependence on a single sector economy in decline would be devastating for rural communities (para 39, para 55). Industry must develop in the countryside to avoid the duality between urban affluence and rural poverty (para 38). The countryside had to be multi-functional to have a sound economic base, but the balance of activities should be different in different areas, to suit localities (para 25). On technology, he concluded

"much of the isolation of rural communities has been overcome by the advent of the motor car, the wireless and the telephone and these will act as great facilitators to economic progress in the countryside" (para 38).

For *rural communities* he claimed that a broader rural economic base would provide more employment opportunities and thence higher standards of rural living, improved physical and social services and population retention as a result. There was no reason why lower living standards in the countryside, brought about by an inefficient agriculture, should be 'protected' from higher ones (para 38 and 36). This employment

should not be parochial, such as basket weaving and blacksmithing (para 55), and diversifying employment would naturally create a demand for training and reskilling for the new jobs on offer. This would particularly benefit rural women (para 58). He also claimed that housing was the cornerstone of rural communities (para 25 – 28), and:

“because of low rural wages housing need would never be met solely by market forces and so public sector must ‘intervene’ (para 29).

For *agriculture*, Dennison asserted that an efficient agriculture was not the largest agriculture (in terms of acres, labourers and machines) because this would lead to a low rate of return for agricultural factors of production. Comprehensive government support would stop these factors of production from leaving the industry. An inefficient industry would result (paras 3 – 21). If agriculture was the guardian of amenity:

“the farmer should be paid by the state in respect of his function as a landscape gardener, rather than an agriculturalist” (para 42)

Finally for *planning*, Dennison felt that to control all of the environmental quality of rural areas, comprehensive planning control should be extended to cover all agriculture (paras 50 and 75(1)). Good quality agricultural land should not be immune from development if it had a greater economic or amenity use. There was no place for agricultural land having privileges over other uses (para 60). Further, preventing development in the countryside did not equate to environmental conservation. Strong planning controls should actually enhance environmental value (paras, 41, 44 and 56). He concluded:

“For sustaining the amenity of rural areas my colleagues (members of the Scott Committee) place chief reliance on the maintenance of a traditional agriculture. I prefer to rely on better standards of Town and Country Planning” (para 71).

6. BUILDING THE NEW CANONS: THE WORK OF THE COUNTRYSIDE AND COMMUNITY RESEARCH INSTITUTE

This final section of this lecture illustrates how these canons have been formed and are being developed and refined through the work of the Countryside and Community Research Institute and its predecessor organisations at the Universities of Gloucestershire and the West of England, and Hartpury College. This collective body of work, with active application to British and European rural policy, provides critical knowledge and information in the guidance of rural change.

Canon 1: For *rural economies*, rural areas must have a broad economic base, tailored to local circumstances and harnessing new technologies fully.

In expanding our understanding of this canon, Paul Courtney from the CCRI recently led a team of researchers to establish *the determinants of the relative economic performance of rural areas*. This work was funded by Defra. The research team found that economic performance in many rural areas was lower than in urban ones and that economic performance was variable across different types of rural area. The research also suggested that the way in which economic performance was measured through GVA naturally favoured urban areas and that rural economies would benefit most if the more subtle interplay between economic, human, social, environmental and cultural factors was considered holistically.

In this respect, the importance of local people in stimulating rural development was found to be critical and the balance between 'local' (endogenous) and 'open' (neo-endogenous) economies also was important. 'Quality of life' factors also had a role to play in the development of rural economies because people often made 'lifestyle' choices to work in rural areas. Where people were prepared to make income sacrifices for the quality of life that the countryside offered, narrow economic measures of performance (such as GVA) were inadequate indicators and did not reflect the complex nature of rural economies.

Pursuing this theme of more intricate rural economies with a number of economic and social dependencies, Malcolm Moseley together with colleagues at Birkbeck College and the University of Essex, recently undertook an exploration of the value of rural people as 'social capital'. A good example of 'social capital' is the Mafia – so we can't just assume that it's always a 'good thing'! But a lot of research has shown that 'social capital' of a more benign kind explains much of why some places flourish and others seem just to stagnate.

A seaside village in Devon that Moseley studied was awash with social capital – he found some 70 active local organisations and groups with overlapping membership. The parish council was a 'can-do' outfit at the hub of the wheel and the place was buzzing with all sorts of activity much of which had an economic spin-off of some kind.....but a ex-mining village in South Yorkshire that he also studied had never really got over the closure of its pit 13 years earlier, and a culture of cliques, antagonism and mutual recrimination was really holding the place back.

The study concluded that social capital can indeed be of great benefit to

the local economy so long as enthusiasm can be fostered and rewarded, a volunteering culture developed, and local knowledge respected. It also suggested that parachuting external expertise insensitively into an area can do more harm than good and that where financial incentives are introduced at the community level they are generally best disbursed in a diffuse way rather than concentrated on a small number of prestige or 'flagship' projects. But the main finding for Defra to ponder was 'make it fun!' - in other words don't tie local volunteers up in red tape and form-filling, and give people the confidence that they will have a real chance of getting at least part of the funding for worthwhile projects that they come up with. Rural people resent being treated as mere foot-soldiers of the state!

Other recent and current work in the CCRI supports this canon for rural economies. The author has been working on *assessing rural business productivity under the new definition of rural* with funding from Defra and the research councils. Paul Courtney, together with Pete Gaskell and Jane Mills, have carried out two projects for English Heritage concerned with the wider benefits of managing the historic environment to the rural economy. Findings suggest that public support for heritage restoration is well founded on both intrinsic and economic grounds. Courtney has also analysed *the economic role of small and medium sized towns in rural areas* in relation to their hinterlands, for both the Scottish Executive and the European Commission.

Canon 2: For rural communities, all policies need to be people-centred, focusing on employment and training in a wide range of skills with housing policies that fully support the employment base which in turn will support rural services.

In developing research for this canon, Matt Reed and Owain Jones have been working for the National Heritage Academy to identify rural skills shortages specifically in relation to heritage and rural buildings in a project entitled *skilled labour for the heritage and rural landscape sector*. This has embraced an assessment of traditional skills such as thatching, smithying, masonry and lead working as well as more contemporary ones. The study has found that many of the traditional skills in particular are held amongst people who are now approaching retirement and there is a clear need to introduce training programmes to pass these skills on to new generations. Turning these craftspeople into trainers in the latter part of their career can extend their careers too.

The study was able to identify a number of specifically rural skills gaps and propose a number of knowledge transfer mechanisms for reducing these gaps that would be particularly valuable for rural areas. These included training agreements, apprenticeships, the development of NVQs and various means of widening the basis of recruitment, particularly for women and older people.

In respect of this rural communities canon, Malcolm Moseley and Steve Owen led a large Defra-funded project in 2005/06 on the *future of rural services*. The task was to build a coherent and plausible scenario of what the 'landscape' of rural service delivery might look like in 2015. The research found that change is indeed rapid on the '*demand side*', with changing demographics, the growing prosperity of the majority of the rural population, and what was termed the 'it-must-fit-me and I-want-it-now!' culture, all rewriting what it is that most people want and how they want it delivered. On the '*supply side*' information and communication technology and a continuing transformation of the public, private and voluntary sectors conspire to revolutionise just how services such as banking, health care and education will actually be delivered.

In short it is not really an option to try to preserve *existing* services delivered in time-honoured ways. New services will be more technology-based and will make much greater demands on the voluntary and community sectors. Service delivery is likely to become more 'virtual', involve more collaboration and be more quality conscious. But you will need to have your own transport and be IT savvy – or else be blessed by caring neighbours, family and friends – to cope in this brave new world. The danger of increased social polarisation arising from all of this is obvious – and the research team stressed that government cannot shirk its obligation to take vigorous action to protect the disadvantaged minorities who risk being left on the sidelines.

Other recent work in the CCRI in relation to this rural communities canon includes *an assessment of the work of rural community councils*, led by Owen and Moseley and funded by Defra. Moseley, too, recently has undertaken work assessing the funding for, and value of, *village halls as a community asset*, again with funding from Defra. Courtney and other colleagues in the CCRI have assessed *the contribution of land-based sectors to rural communities* with funding from the Commission for Rural Communities. The author has been exploring *the nature of rural decision-making and rural governance* with funding from the Government Office for the South West and Moseley recently has completed a study of *the access to rural services of disadvantaged social groups*, funded by Defra.

Canon 3: For *agriculture*, reduce support for basic food production and direct a smaller support regime towards farmers who protect and sustain the environment (linking their production to local markets and minimising waste) in an integrated way with food production.

In support of this agricultural canon, the CCRI's study on *Best practice in influencing positive environmental behaviour amongst farmers*, led by Janet Dwyer, for Defra, in partnership with the Macaulay Institute, showed the importance of a whole farm approach in integrating all farm activities, environmental, economic and developmental, to encourage long-term change. A holistic approach working through existing farmer networks to encourage ongoing learning and experimentation, was identified as most likely to lead to the best management practices in integrated pest management, nutrient planning, efficient fertiliser use and good soil management, for example. To achieve this, farmers would respond most positively to advice and information which could:

- be sensitive to their capacity to change, which may be constrained by farming system, family, workforce or financial factors;
- maintain or improve profitability or help to address current management challenges;
- offer them support and recognition by their peers and the public; and
- perhaps most crucially at the current time, inspire confidence in the long-term future of the industry.

In a related study, the CCRI's *Fresh Start evaluation* in Cornwall, led by James Kirwan and Julie Ingram, has shown the importance of attracting new entrants into the industry but it also has identified how difficult this is, because of high land prices and the lack of affordable homes for retirees.

This work is simply one example of a large body of research being conducted in the CCRI in relation to agricultural change, much of which is undertaken in collaboration with other research bodies. This includes a review of *EU rural development instruments* for the EU Directorate General for Agriculture in 2007, led by Janet Dwyer; two studies for Defra on the environmental implications of the most recent CAP reforms in England, led by Janet Dwyer and Peter Gaskell and working closely with Nigel Boatman and colleagues at the Central Science Laboratory; while Jane Mills is leading CCRI work on collaborative approaches to agri-environmental management, for the Welsh Assembly Government. It also embraces work on sustainable food networks: *evaluating markets for organic food* (Ilbery, Maye, Reed for the research councils, Defra and others), and *marketing sustainable agriculture* (Kirwan and others, for Defra).

On the environmental role of farmers, Paul Courtney, Peter Gaskell and Jane Mills have been examining *the environment and heritage values of National Parks in England and Wales* for CADW and England Heritage. Importantly for this canon, they are exploring these values in terms of their worth to the communities living in National Parks, and the extent to which they encourage inward investment and local economic development. The work was able to show that not only do environmental works have a clear value for tourism and for the inherent quality of national parks but that the employment created and income generated through these works is highly significant in areas that otherwise have limited employment opportunities. A small amount of grant aid can achieve environmental, heritage and employment goals simultaneously for the wider rural economy. Removing such grant aid, in contrast, is likely to create a downward spiral for both the environment and the creation of wealth.

Again, other current work in respect of the environmental role of agriculture includes studies for Defra's *agricultural change and environmental observatory programme* (Dwyer and Gaskell), *examining the links between food quality and biodiversity protection* (Kirwan and Jones, for the research councils), *improving the delivery of agri-environment schemes* (Mills, for the Countryside Council for Wales) and a series of projects on *the value of rural heritage* for English Heritage (Gaskell).

Canon 4: For *planning*, policies should adopt a positive stance towards appropriate development with the aim of improving the sustainability of rural environments and communities; this should include planning controls over agriculture.

Exemplifying this new canon, the CCRI was invited at the end of 2005 to undertake an exploration of the *meaning of sustainable rural communities*, appropriately, for the Commission for Rural Communities. The project was led by Stephen Owen. This research affirmed some of the core themes of this lecture. Although the vast majority of development since the war has been urban, where rural development had been allowed it had been concentrated in larger key settlements. This was originally justified as a means of reducing the cost of supplying rural services. While the policy of rural settlement concentration remains, its contemporary rationale is quite different. Key settlements are now justified on the grounds of reducing the need to travel (and with it, the reduction in CO₂ emissions).

This approach, however, was found to overlook the multi faceted nature of sustainability. A preoccupation with CO₂ emissions was seen to overwhelm other sustainability criteria, thereby reducing the *overall*

sustainability of individual settlements. The research found that many smaller rural settlements under this policy regime actually became progressively *less* sustainable both socially and economically, compounding problems such as a lack of employment opportunities for local people, a lack of affordable homes for people on low incomes, and the erosion of local facilities and services in villages, including shops, health care, child care and training, particularly for those young and elderly people who are socially and physically isolated.

Other research in the development of this new canon has been undertaken, for example, through projects such as *the Sustainable Development of Dispersed Settlement in the High Weald AONB* commissioned by English Heritage and the High Weald AONB Joint Advisory Committee (Owen and Kambites). In addition the CCRI has developed such principles through work for *sustainable community-led planning in Oxfordshire* (Kambites and others for the Oxfordshire Partnership), the development *green-infrastructure in the rural urban fringe* (Kambites and Owen for the Great Western Community Forest) and the development of a number of *sustainable rural strategies* for local authorities (Owen and Moseley).

Finally under this canon, the CCRI and the CRC are currently working in partnership to develop a positive carbon campus at Hartpury College. This programme will put some of the principles of this lecture into practice as exemplars of rural sustainable development for others to develop and adopt. The programme as a whole is known as Village: *Green*. Its development over the next three years will have the following characteristics; it will:

- introduce sustainable development characteristics, behaviours and technologies cohering around a *place of work* rather than a place of residence;
- integrate *all aspects* of sustainable development: energy, transport, reconnecting agriculture with community, balanced development, sustainable construction, sustainable land tenure, waste management, water management and biodiversity;
- create positive carbon energy production through entirely renewable sources: wind, sun, anaerobic digestion and heat pumps;
- base transport on renewable energy, particularly through the use of electric vehicles for on-campus and commuter journeys as well as connecting the existing off-road cycle route from Gloucester through to Hartpury College campus;

-
- provide practical solutions for sustainable development in rural areas as a counterbalance to the urban-centric nature of national sustainable development policy.

In undertaking all of this work, the CCRI remains committed to Denison's 1942 vision:

"I can conceive of no more proper way to use the land in the national interest than it should be used for the new construction necessary to provide better living conditions for the people - and their children after them - now living in our congested towns" (para 49).

7. REFERENCES

Annibal I P and Boyle P (2007) *Productivity and place: economic performance in remote areas*. Local Government Analysis and Research Local Government Association September, London.

Banister D. 2002. *Transport Planning*. Routledge: London.

Barlow M (1940) *Report of the Royal Commission on the Distribution of the Industrial Population*, Cmd 6153, HMSO, London.

Commission for Rural Communities (2006). *State of the Countryside Report*. Commission for Rural Communities: Cheltenham.

Curry D (2002) *Strategy for Sustainable Farming and Food* Department of the Environment, Food and Rural Affairs, London.

Department of Communities and Local Government (2006a) *Planning Policy Statement 3: Housing*, 29 November, London. ISBN 978 0 11 753976 1

Department of Communities and Local Government (2006b) *Barker Review of Land Use Planning*, December, London, ISBN-13: 978-0-11-840485-3
Guardian (2007) *Brown sets out to woo back middle England*, May 14,

Department of Communities and Local Government (2006c) *Strong and Prosperous Communities -The Local Government White Paper*, 26 October, London, ISBN 9 780101 693929

Department of Communities and Local Government (2007) *The New Performance Framework for Local Authorities and Local Authority*

Partnerships: Single Set of National Indicators, DCLG, London, October.

Department of the Environment, Food and Rural Affairs (2005) *Productivity in Rural England*, Rural Economics Unit, Defra, November, London.

Department for the Environment, Food and Rural Affairs (2006) *The Environment in Your Pocket*, 10th edn. Defra: London.

Department of the Environment, Food and Rural Affairs (2008) *Defra announce first results from monitoring the impact of 0 per cent set aside rate*, NEWS RELEASE, 30 January, <http://www.defra.gov.uk/news/2008/080130a.htm>

Gershon P (2004), *Releasing Resources to the Front Line: Independent Review of Public Sector Efficiency*, London, HM Treasury, July

Gloucestershire County Council (1999) *Gloucestershire Structure Plan, Second Review*, County Hall, Gloucester, November.

Great Britain Day Visits Survey (2004), *Survey for 2002-03*, TNS Travel and Tourism, Edinburgh,

Greer A (2007) *Policy failure and multi-arena governance: a comparative study of the Single Farm Payment in the UK and Germany. Paper delivered at the XXII Congress of the European Society for Rural Sociology*, Wageningen, the Netherlands, 20-24 August 2007.

Horticultural Trades Association (2008) www.the-hta.org.uk Market Research-Gardening continuum. Web page derived from report *The Great British Gardener: A Profile of Gardeners in 2006*.

HM Treasury and the Department of the Environment Food and Rural Affairs (2005) *A Vision for the Common Agricultural Policy*, HMSO, Norwich, December, ISBN: 1-84532-111-1.

HM Treasury, Department for Business, Enterprise and Regulatory Reform and Department for Communities and Local Government (2007) *Review of sub-national economic development and regeneration* PU300, London, July ISBN 978-1-84532-317-2.

Lowe P and Goyder J (1983) *Environmental Groups in Politics*, Allen and Unwin, London.

Lowe P and Ward N (2007), Sustainable Rural Economies: Some Lessons from the English Experience *Sustainable Development* Vol 15, pp 307–317

National Centre for Social Research (2007) the British Social Attitudes Survey, 2005, NCSR, London, Spring.

Natural England (2007) *the England Day Visits Survey, 2005*, Natural England, Cheltenham.

Newby H (1991) *The Future of Rural Society: Strategic Planning or Muddling Through?* The Dartington Lecture, November, Dartington Hall.

OECD (2005), 'Agricultural Policies in OECD Countries: Monitoring and Evaluation 2005', Paris

OECD (2006) *The New Rural Paradigm: Policies and Governance*. OECD: Paris.

Office of the Deputy prime Minister (2001) *Planning Policy Guidance 13 Transport*, March, London, ISBN: 0 11 753558 3

Office of the Deputy Prime Minister (2004) *Planning Policy Statement 7: Sustainable Development in Rural Areas*, August, London IBN 0 11 753923 6

Office of the Deputy Prime Minister (2005) *Planning Policy Statement 1: Delivering Sustainable Development*, London ISBN 0 11 753939 2

Office of the Deputy Prime Minister (2006) A framework for City-Regions Working Paper 1, Mapping City-Regions, ODPM London.

Scott, Lord Justice (1942) *Report of the Committee on land Utilisation in Rural Areas*. Cmnd 6378, HMSO, London.

SQW and Cambridge Economic Consultants (2006) *Economic performance of rural areas inside and outside of city regions*, final report to Defra, September.

Performance and Innovation Unit. 1999. *Rural Economies*: Cabinet Office: London.

Ward N and Lowe P (2007) Blairite Modernisation and Countryside Policy. *The Political Quarterly*, Vol. 78, No. 3, July±September.

Webber DJ, Curry NR and Plumridge A (2008) Rural Business Productivity in England and Wales and the New Definition of Rural, *Regional Studies*, 51(1), pp x-x.



Dunholme Villa, The Park, Cheltenham, Gloucestershire, GL50 2RH

T: +44 (0)1242 714122 F: +44 (0)1212 714395

www.ccri.ac.uk



University of the
West of England

