

Integrated rural development - do we need a new approach?

Philip Kostov

Department of Agricultural and Food Economics, Queen's
University Belfast, UK

John Lingard

Department of Agricultural Economics and Food Marketing,
University of Newcastle, UK

Acknowledgements

This research was undertaken with support from the European Union's Phare ACE Programme. The content of the publication is the sole responsibility of the authors and it in no way represents the views of the Commission or its services.

Abstract

Rural development was traditionally associated with agriculture. The policy shift towards integrated rural development reflects the complex linkages and interactions within the system of overall rural development. Putting too much emphasis on agriculture and ignoring its linkages to the rest of the economy could result in analytical bias. Rural development provides an alternative to agriculture as a source of incomes and livelihoods. Rural diversification is a process aimed at reducing the price risks of agricultural production and is a logical consequence of the policy shift away from direct agricultural price support. This shift represents a fundamental change in policy objectives and frameworks towards a more holistic approach to rurality and implies new tools of analysis. Conventional economic models are based on an instrumentalist methodology which links means to ends with little interest in the underlying structure. We argue here for a synergy approach to rural development. This approach incorporates both traditional network and institutional analysis and focuses on working mechanisms and processes rather than ends. Substituting a holistic vision of rurality for the old instrumentalist and deterministic approach leads to understanding the need for fostering co-operation between public and private actors to achieve sustainable development.

JEL classification: B52, B59, D81, O13, R00

Non-technical summary

Not available

1. Introduction¹

Rural development has traditionally been associated with agriculture. The recent policy shift towards integrated rural development however reflects the complex linkages and interactions within the system of overall rural development. The historical trend of the decreasing importance of agriculture in developed economies additionally contributes to a differentiation of the role of agriculture in rural development. Consequently, it is now widely recognised that the concept of rural development is much broader than agricultural development. The concept of integrated rural development altered the traditional view of the crucial importance of agriculture and it is now generally believed that the stronger causation flows from rurality to agriculture rather than the other way round. Agriculture itself can be seen as a "residual" sector of the economy, or a sector that is influenced by, and heavily depends on, the pattern of regional development. Putting too much emphasis on agriculture and ignoring its linkages to the rest of the economy could result in analytical bias. The object of analysis within this new view is much broader and more complex. But does this object of analysis require new methods of inquiry? How useful are conventional techniques that have been used to analyse the intensification of agriculture in recent decades? A broader objective implies a wider range of analytical methods. The nature of integrated rural development suggests that the methods of economic and sociological analysis must be combined to develop a better and more useful research capability.

2. Rural development and agriculture

Rural development provides an alternative to agriculturally-based sources of income, employment and livelihoods. It represents the overall framework in which agricultural production develops, adjusts and adapts. Whilst in the past and in traditional societies, agriculture was the main and often the only source of income and livelihoods in rural areas, this is no longer the case in most advanced countries. The intention of the EU to shift the policy emphasis away from intensive agriculture towards more sustainable rural economies (Commission of the European Communities, 1997) further increases the importance of non-agricultural sources of income. The relationship between rurality and agriculture is in transition from a situation where agriculture was the major driving force to a new state where increasingly non-agricultural factors determine the shape and nature of rural development. The latter process has significant economic repercussions

¹ Forthcoming in Arzeni, A., R. Esposti and F. Sotte (eds.) *European Policy Experiences with Rural Development*.

for agriculture. It results in a tendency towards rural diversification. Rural diversification reduces the price risks of agricultural production and is a logical consequence of the recent policy shift away from direct agricultural price support. In other words, it is an example of adaptive change in agriculture. A parallel policy shift takes place. The emphasis of support moves away from commodity-based measures into a broader range of environmental and rural development criteria. Consequently agriculture becomes increasingly less insulated and protected from external risks and therefore diversifies in order to adapt. This adaptation leads to newer role of agriculture as a multifunctional activity.

Notwithstanding the smaller role of agriculture, it is still an important element in overall rural development. Agricultural activities exercise considerable impacts on the environment and consequently, to some extent, impacts on the results of wider rural development. The concept of integrated rural development must therefore, account not only for the changed relationships and realities in rural areas, but also for the complementarity of the different continuously interacting elements of the system. The debate on the repercussions of BSE and the foot and mouth crises on the wider economy in the UK clearly demonstrates this point. These complex links within rural communities are expressed in the mutual embeddedness of agriculture and rurality. This defines our research agenda. We regard the object of analysis as a comprehensive non-reducible system. In other words, the problem of embeddedness manifests itself in the impossibility of obtaining a consistent holistic view by continually dividing the overall system into its separate parts. Rural development cannot be analysed without paying proper attention to agriculture, and agricultural policy analysis too requires an inclusion of the effects of rural development. Conventional approaches to both these topics until recently applied reductionist methodology by focusing on solely one of them as the primary object of study and largely regarding the other as exogenous. This is however a static approach. We argue that such an approach has severe limitations and can lead to substantial analytical bias.

3. Why do we need a new approach?

The recent shift in rural policies represents a fundamental change in policy objectives and the policy framework towards a more holistic approach to rurality. This shift implies new tools of analysis. Conventional economic models are based on an instrumentalist methodology which links the means to the ends without being too interested in the underlying structure. Such a methodology however becomes increasingly difficult to sustain when the focus of analytical attention has been expanded and become more heterogeneous. The term associated with this policy shift, namely integrated rural development reflects a new understanding of the problem. The word *integrated* stresses that the object is a complex, multidimensional one and consists of

different interacting elements. This implies a need for proper assessment of these interactions, which requires an essentially dynamic approach. Conventional economic models overuse the assumption of *ceteris paribus* which then allows them to concentrate on a specific focal point of interest by regarding the rest of the system as fixed. Such models are useful only if there is a definite and straightforward direction of causation. Unfortunately this is not the case with rural development. Moreover the system of study in this case is analytically non-reducible. Owing to the mutual embeddedness of agriculture and rurality, they can only be defined in relation to each other. Such a situational definition of the objects of study leads to the conclusion that the total rural system has characteristics that are not directly attributable to any of its constituent individual parts. This differentiation of the whole from its parts does not allow for consistent application of the conventional economic *ceteris paribus* methods. Even when application of the dominant economic paradigm to the problems of integrated rural development is justified, it has one important drawback. It imposes a general frame designed to prevent overflowing, or as it is better known in economics, to internalise the externalities. Notwithstanding a long tradition of application of economic theory to the problems of rural development, the theoretical frame that is imposed still excludes numerous important effects, which are essentially internal to the object of study.

The frame imposes limits to calculativeness and thus makes it tractable. To put it simply, economic actors and agents cannot calculate and make decisions with regard to everything, and externalities express the effects of the specific frames they employ in their calculations. The general aim of the new policy approach to rural development is to convey understanding of the interactions within the complex system of rural development in ways that they are included in the calculative frames of all economic agents. A major concern of these policies and hence of the analysis of integrated rural development should be to identify and consequently suggest mechanisms for internalising the externalities, arising from the currently used frames of economic action. It is evident that this cannot be achieved by employing the same theoretical views that define the latter frames. There is however another important area of interest in research into rural development. A well known type of overflowing in economics is the spill-over effect, which represents a positive externality. Within the new paradigm for rural development spill-over effects have attracted much analytical interest. Indeed, the potential for such effects among the integral parts of the system is a major point in the political rhetoric that is used to justify the policy and paradigm shift.

4. What new approach?

If we regard rural policies as simply an attempt to include environmental and other considerations in the calculative frames of economic agents, then traditional methods would be useful. It must however, be noted that overflowing is unavoidable by

definition. Moreover within integrated rural development, spill-overs are often the primary object of interest. This leads us to a more comprehensive understanding of development processes which evolve over time by continuously modifying the frames of action in order to reduce negative overflowing and increase positive overflowing. Since it is not feasible to totally eliminate overflowing, the best we can do is to restructure it in a way that meets our aims. The latter however, represents a significant structural change which is difficult, if not impossible, to be properly assessed by an instrumentalist methodology, that takes the structural characteristics as given. The UK Round Table on Sustainable Development (1998) for example concluded that the existing structural and institutional characteristics in the UK are not appropriate for meeting the aims of the integrated development and must be changed. The European Commission's proposal to the Gothenburg European Council (European Commission, 2001) further stressed the need for change in the existing mechanisms. Such a change, which evidently should be of a primary interest in future research, includes "efforts to change values and institutional structures" that should result in "changes in the interpretive frames of agricultural actors" (Lowe et al., 1999). The latter suggests a redirection of our analytical effort away from the 'means to ends' approaches towards a more process-oriented approach. The concept of sustainability emphasises the process view, because the aim is to constrain socio-economic processes within a given region of desirability, rather than reaching a specific end-state. The internal logic and interactions of the processes become increasingly important. In order to know what changes are needed in existing policies and institutions we need "causal knowledge, not just trend knowledge of processes" (Lowe et al., 1999). We suggest that a synergy approach is appropriate to attain these ends. This approach has evolved and developed as an attempt to combine and reconcile the achievements of network and institutional analyses. We briefly describe and summarise these forms of analysis.

4.1. Network analysis

The network approach allows us to concentrate on the interweaving linkages and interactions. Our understanding of this approach builds on the work of Granovetter (1973, 1985). The term network is defined as a set of actors, linked to each other by specific links. These links can be stronger or weaker. A principal merit of the network view is understanding of the non-reducibility. The actor is identified by the network in which he/she participates, and more precisely by the network context, which is that part of the network that the actor knows better and explicitly includes in his/her calculations when engaging in action. This gives rise to the problem of embeddedness (Granovetter, 1985). The actor and the network are essentially embedded in each other. The actor's identity, that is the combination of his own perception about himself and the opinion of the others, evolves within the network context. The network at the same time can be identified as a structured product of the identities of its participants.

By applying the networks' view we can avoid the methodological trap of explaining decision making under uncertainty, because networks impose stringent informational constraints on both individual and organisational behaviour. The network links define the type of information that will flow through, while the identities of economic and social agents further restrict the information that will be taken into account. In this way one does not need total full information to calculate an optimal decision, a requirement that most conventional economic models need.

The economic agents are embedded in the socio-economic networks and should not be regarded outside this context. Focusing our attention on these networks will contribute to elaborating a holistic systems view of the problems of integrated rural development. We once again stress the essential non-reducibility of the network approach. One cannot concentrate on the actor within a given network or alternatively on the network structure itself. Actor and network are one and the same thing and are analytically inseparable and intractable on their own. In anticipation of some objections to these ideas we would like to stress a point made explicit in Murdoch (2000), namely that the network approach, as any other approach, is a tool of analysis. It does not suggest ready-made answers, but provides the means of expressing alternative views. Its non-reductionist nature, which we define as a principal merit, can be alternatively viewed by supporters of instrumentalist methodology as a major drawback, because it does not allow one to clearly link ends and means.

4.2 Links to institutions

Furthermore this approach complements analysis that takes into consideration institutional and organisational characteristics. Institutions, organisations and networks taken together, define the specific frames used by economic agents and thus the type of overflowing that can be contained within these frames. Institutions provide the general rules for economic and social behaviour and thus they define general behavioural guidelines. Institutions are in some sense 'socialised habit'. The rules they prescribe as standards for behaviour in given situations create increasing returns. When they are adopted by a sufficient number of actors, it is advantageous for the rest to use them. As such, institutions create incentives to create economic and social roles. These can be understood as a generalisation of typical behavioural features of actors that may not be directly connected within the same network. In other words, the roles, formed under the influence of the institutions, are very similar to the personal identities, but at a more aggregate level. One can say that economic and social roles, defined by the existing institutions represent 'socialised' identities. With regard to this, institutions contribute to the process of evolution of the networks by shaping the identities of their participants. Institutions also play an important informational role, since they help to identify the expected behavioural patterns. In this way they impact on the information flows within

the networks. Similarly networks' structure determines the channels for institutional change. We use here a 'broad' definition of institutions as the rules that shape human behaviour, including also informal rules, such as traditions, customs and social values. The influential New Institutional Economics, for example, intentionally ignores informal institutions, solely focusing on the formal ones. Such an approach is however unjustified, because institutional structure is characterised by complexity in which different institutions co-exist and continuously interact. Formal institutional change in many cases may take place as the superimposing of new formal rules on top of existing informal ones without actually replacing them. Concentrating only on formal institutions leads to an essentially instrumentalist approach that lacks depth and superficially differentiates institutional analysis from the network approach. Interestingly, in recent years the New Institutional Economics began moving towards a more holistic point of view (North, 1999). This is a consequence of the attempt to transgress pure theorising and from explaining mainly the past to trying to project the future. An immediate implication of such an attempt is that the instrumental character of the explanation becomes blurred.

4.3 A synergy approach

Network and institutional approaches naturally complement each other. Therefore it would be useful to combine them. The product of this combination is a *synergy view* to social capital, the latter being defined as "the norms and the networks that enable people to act collectively" (Woolcock and Narayan, 2000: 226). This approach provides a more general though more abstract view of the issues discussed above. While the networks approach, as its name suggests, concentrates on the micro level of the specific networks, and the institutional approach is pre-occupied with the general social functions of the prevailing social norms, the synergy approach bridges the two and combines their achievements, thus allowing analysis at both levels. The synergy approach to rural development could be expressed as a process of internal restructuring of the social capital. Woolcock (1999) defines two types of social capital - *bonding*, which is based on strong ties within the network and *bridging*, which relies on weaker ties. Bonding social capital is seen as a characteristic of more traditional societies and it preserves their coherence by fostering solidarity and mutual trust. Bridging social capital on the other hand contributes to greater dynamics and is more growth oriented. It is more favourable for change. Granovetter's (1973) classical study on the operation of labour markets presents a clear view of the advantages of bridging social capital. With regard to the problems of rural development, rural migration to urban centres is a good example of the transformation of bonding into bridging social capital. It is clear that a high quantity of bonding social capital is favourable only up to a given level of development and afterwards becomes detrimental. The migration to towns has torn apart existing socio-economic networks and increased the importance of weak ties.

Consequently it contributed to economic growth. Interestingly such developments lead to a greater presence of "arm's length" transactions, and thus have contributed to the modern market theory, which have promoted the latter as a normative standard for economic activity. It could be argued however, that the high quantities of weak ties, or more precisely the lack of sufficient strong ties in social networks, could also represent a threat for further development. The aims of creating sustainable and environmentally-friendly agriculture, as well as improved rurality within the realm of integrated rural development requires structures that themselves preserve the coherence of the rural system.

The institutions needed to achieve the aims of rural development cannot be so purposely designed. They will evolve in the process of interaction of state, farmers and rural communities. None of the single entities alone possesses sufficient resources to ensure sustainable rural development. Therefore they have to work together by forming synergies to accomplish this task. These synergies have to be based on both complementarity and embeddedness (Evans, 1992, 1996). In the area of complementarity, there is more room for purposeful action aimed at mutual support. This would arguably be the main channel for policy intervention, because measures, such as guarantees of rights and definition of obligations of actors in the process of rural development, can be effectively implemented by designing and modifying formal institutions. Embeddedness on the other hand, has much more profound implications and is more difficult to assess. Baldock et al. (2001) point out the involvement of heterogeneous actors as a necessary part of the definition of integrated rural development.

5. Implications for empirical analysis

The specificity of the frames, networks and institutions used in different countries and regions implies that the analysis of rural development, should be specific and appropriate to the object of study. The methodological tools used in this analysis, however, should be common. Common theoretical beliefs are an important source of reducing regional differences in perception and economic action via the embeddedness of economics in the rural economy. The commonness of methodological tools however should be strictly restricted to this area. No generalisation of methods and tools in terms of 'proven' recipes of how things would better work can be acceptable, because this would be an expression of the functionalist view, and this is exactly what we are arguing against.

Correspondingly the results of such analysis have to be specific. The successful application of programmes for integrated rural development would require significant research effort. The latter has to be aimed at 'translating' the rather general and abstract aims of the new policy paradigm into specific objectives in a given rural context.

Following Baldock et al. (2001) in their definition of integrated rural development as a final product of the endogenous model of rural development, we must stress the individuality as a major characteristic of this paradigm. Integration can make sense only as a process of reconciling and recombining this individuality. Without the element of individuality, integration becomes a trivial concept that loses its significance and is relegated to an ordinary object of instrumentalist and reductionist analysis, that is, it will lose its endogenous character. The only way to integrate the individuality as such is by allowing for involvement of the actors that represent this individuality and thus adopting an endogenous model of rural development. The nature and the extent of the rural networks and institutions and the way in which we can transform them becomes a major question in this setting. The aim of these new policies is to establish and expand the complementarity of public and private interests and socio-economic action. The UK Round Table on Sustainable Development (1998) has recognised that "involvement at the regional level will be crucial". The significance of this is that it acknowledges the need for mechanisms for co-ordinating diverse social and economic interests, a co-ordination that should eliminate perverse counterproductive incentives and increase the complementarity. Case studies at regional level are therefore needed to contribute to better understanding of the processes of rural interaction. The network and institutional paradigms may be useful in this. Further using the correspondence between the concepts and tools of these micro-level studies and the more aggregate concept of the synergy approach, one could establish the correspondence of these specific results to a more general level of analysis. Thus 'translating' the results of specific studies could provide a means for comparing and generalising. Yet again we have to warn against the dangers of generalisation. We do not want to give the impression that synergies are the easiest and fastest way to success. Indeed, in some situations, according to the existing societal structure, that is the character of existing networks and institutions, a more straightforward exogenous model of change may work better. The conditions for preference of one or another model of rural development however, can only be determined by consistently applying a non-instrumentalist methodology. This type of methodology has to be established on firm foundations, and has to reject false dichotomies such as that between exogenous and endogenous models of rural development. Imposing, consciously or sub-consciously, dichotomies is an ultimate expression of reductionism, because it is aimed at simplifying the problem. Sometimes this is acceptable and useful, but we should not generally promote it as universal means.

6. Rural development as risk management

The new policy paradigm of integrated rural development, cannot provide the visible stability and security of the former agricultural price policy regime. The aims and objectives of integrated rural development are much more abstract and broadly defined. The results of application of such under-defined objectives is greater variation and

uncertainty about the desired outcomes. The latter are defined in more general terms compared to the specific targets of agricultural product price policies. This, however, is not necessarily a shortcoming since it stimulates adaptability. Such policies transfer economic and social responsibility from the state back to farmers and rural communities. It is therefore important to prevent the possibility of a latent conflict to emerge between the higher potential discretionary power of the state bureaucracy and rural communities with a low share of bonding social capital. This can only be done by including rural communities in the process of decision making, that is by enhancing the complementarity of rural policies. Parallel to this however, more market-like mechanisms for influencing agriculture can be employed. One such mechanism is provided by the concept of risk management. Recent research into decision making (Huber, 1997) indicates that economic behaviour is better thought of as a process of reducing uncertainty through risk defusing operators, that is, risk management. Rural development is to be designed to provide access to such operators broadly classified into control, new alternatives, worst-case plans and precautions. One can list many examples of risk defusing operators, such as agricultural diversification (combination of control and new alternatives), rural tourism (new alternatives), insurances (precautions), sharecropping (worst-case plans). We note that since the concept originates from a naturalistic decision making perspective, which is a positive, rather than normative, approach to the problems of decision making, it differs considerably from the conventional approach of subjective utility maximisation under which the decision making environment is taken as given. The purpose of risk management is to alter this environment. This can be done by exploiting some objective features as in the case of insurance which presumably includes in the economic calculation objective probabilities for events which are insured against. From a normative point of view the act of insuring would make a difference only for those persons whose subjective risk perceptions differ from the objective ones. From a positive point of view however, it is not worth taking any chances and insurance reduces the risk perception. Similarly spraying crops or immunising animals can reduce or eliminate some unfavourable possibilities, thus altering the environment in which farmers operate. Another often ignored form of risk management is to modify the subjective perception of risk. An example of the latter is when one simply ignores some information. Strictly speaking the latter does not change the decision-making environment itself, but it alters the perception of it, that is the subjective reality. Kostov and Lingard (2001) argue that risk is a subjective concept and all forms of risk management can be ultimately expressed as modifications of the subjective reality.

To put it simply, the main idea of risk management is that agents can improve their performance either by changing the environment, or by changing their opinions on it. This requires us to regard the agent and environment as mutually dependent. Consequently it is appropriate for the aims of rural development where farmers and rural communities interact with rurality in a process that both shapes their actions and modifies the basic features of rural areas. Providing farmers and rural inhabitants with

appropriate risk defusing operators would help them to adapt to the uncertain environment, but may also channel their economic and social efforts in ways that can contribute to better achieve the purposes of rural development policies. In other words, the tools of risk management can introduce the needed complementarity of public and private interests. The specific tools and methods to use are the research agenda. We would only point out that the question of power distribution and the nature of governance mechanisms greatly influence the tools of risk management. Redistribution of power from the centre to the local communities for example gives larger opportunities for local actors not only to adopt, but also to create risk defusing operators, by exploiting their own detailed knowledge of the local networks. Together with advances in research into integrated rural policies, this could lead to the formation of better decision-making "models" and greater transparency of rural development which has been demonstrated to increase the adaptability of economic agents to complex environments. The positive concept of risk management, therefore, can be implemented in future research on rural development strategies as a tool for evaluation and comparison of competing alternatives. The latter would need to be accomplished within the general empirical research outline described in the previous section.

7. Complexity, embeddedness and a research agenda

This vision of integrated rural development brings to the analysis the issue of complexity. Complexity can only arise in a process of interaction amongst the autonomous parts of a bigger system. Interaction is the key word. It suggests that the parts of the system have to be considered in their interactions and cannot just be analysed on their own. The challenge of complexity is essentially the problem of embeddedness. Owing to this, tools of network analysis are appropriate for investigating rural development. The challenges of complexity have to be overcome by using imperfect information, information which is structured and interpreted according to the institutional, organisational and network structure of society. This structure is destined to be a focus of attention for any meaningful analysis. The structure alone is not sufficient to reveal the secrets of rural viability and prosperity. The intensity of social and economic relationships plays an important role in determining the final outcome. At an aggregate level, this intensity is crystallised in the concept of social capital. From an economic point of view, Collier (1998) argues that social capital is 'social' because it generates externalities arising out of social interaction, and is 'capital' only if its effects endure and persist over time. Therefore an important research task is to delimit this concept in specific situations. The network-institutional perspective is useful in this context because both networks and institutions are durable social constructs and such an approach would concentrate on the externalities that are the consequence of the social capital. This research is particularly important because it can define the applicability of more conventional economic analyses. Rural policies must be aimed at creating and

using some positive externalities. One such measure is to support the building of more dense and connected social networks in rural areas. This would increase social interaction and, by creating information flows about the behaviour of other actors, may significantly reduce the problems of opportunism and free riding. This is not usually considered in economic analysis, due to the idea of Adam Smith's 'invisible hand' that co-ordinates all private interests in order to achieve the wider public interest. Nevertheless, economic opportunism and free riding reduce the emergence of trust, solidarity and ability to co-operate, which are probably necessary pre-requisites for effective action of the 'invisible hand'. Policies themselves are an important element of the complex informational structure. The dominant research paradigm is embedded in these policies and thus defines their interpretation. Research therefore has a much more important role to play in future rural development. This role is twofold. On the one hand there is much uncertainty about the potential effects of policy measures in the complex multifunctional and sustainable vision of agriculture and rurality. Research is needed here mainly to identify these. There is however another, arguably more important role of research. It has to modify and change the prevailing opinions and views, some of which, as we have argued throughout this paper, are incompatible with the aims of the new paradigm of integrated rural development. The latter is an important task, that will itself reflect a substantial institutional change. Because as Commons has put it, institutions “are not only common action in control of individual action” but also “common opinion in control of individual opinion” (Commons, 1934).

References:

- Argyris, C. and D. Schon (1978) *Organisational Learning*, Addison Wesley, London.
- Baldock, D., J. Dwyer, P. Lowe, J-E. Petersen and N. Ward (2001) *Development: Towards A Sustainable Integrated Rural Policy in Europe*, Synthesis Report, WWF
- Collier, P. (1998) *Social Capital and Poverty*, Social Capital Initiative Working Paper 4, World Bank.
- Commission of the European Communities (1997) *Agenda 2000: For a Stronger and Wider Europe*, Commission of the European Communities, Brussels.
- Commons, J. R. (1934) *Institutional Economics: Its Place in Political Economy*, New York: MacMillan.
- DETR (1998) *Opportunities for Change: Consultation Paper on a Revised UK Strategy for Sustainable Development*, Department of the Environment, Transport and Regions, London.
- European Commission (2001) *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*, The Commission's proposal to the Gothenburg European Council.
- Evans, P. (1992) *The State as Problem and Solution: Predation, Embedded Autonomy, and Structural Change*, in S. Haggard and R. Kaufman (eds.): *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State*, Princeton University Press, Princeton, N.J.
- Evans, P. (1996) *Government Action, Social Capital and Development: Reviewing the Evidence on Synergy*, *World Development*, 24(6), 1119-32.
- Granovetter, M. (1973) *The Strength of Weak Ties*, *American Journal of Sociology*, 78, 1360-80.
- Granovetter, M. (1985) *Economic Action and Social Structure: The Problem of Embeddedness*, *American Journal of Sociology*, 91, 481-510.
- Granovetter, M. (1995): *The Economic Sociology of Firms and Entrepreneurs*, in A. Portes (ed.) *The Economic Sociology of Immigration: Essays on Networks, Ethnicity and Entrepreneurship*, New York: Russell Sage Foundation.
- Huber, O. (1997) *Beyond Gambles and Lotteries: Naturalistic Risky Decisions*, in R. Ranyard, W. R. Crozier and O. Svenson (eds.) *Decision Making: Cognitive Models and Explanations*, 145-62, London: Routledge.
- Kostov, P. and J. Lingard (2001) *Rural Development as Risk Management*, Working Paper 65, Centre for Rural Economy, Dept of Agricultural Economics and Food Marketing, University of Newcastle.

Lowe, P, N. Ward and C. Potter (1999) Attitudinal and Institutional Indicators for Sustainable Agriculture, in F.M. Brouwer and J.R. Crabtree (eds): *Environmental Indicators and Agricultural Policy*, CAB International, 263-78.

Murdoch, J. (2000) Networks -- A New Paradigm of Rural Development?, *Journal of Rural Studies*, 16(4): 407-419.

North, D. (1999) Dealing with a Non-ergodic World: Institutional Economics, Property Rights, and the Global Environment, opening address at the Fourth Annual Cummings Colloquium on Environmental Law, Duke University, *Global Markets for Global Commons: Will Property Rights Protect the Planet?*, 30 April.

Richards, S. (1998) Wicked Problems and Clever Solutions: Sustainable Development and the Institutional Framework for UK Agricultural and Rural Policy, Report to the UK Round Table on Sustainable Development.

UK Round Table on Sustainable Development (1998) *Aspects of Sustainable Agriculture and Rural Policy*, July.

Ward, N. (1996) Pesticides, Pollution and Sustainability, in P. Allanson and M. Whitby (eds.): *The Rural Economy in the British Countryside*, London: Earthscan, pages 40-61.

Woolcock, M. (1999) Learning from Failures in Microfinance: What Unsuccessful Cases Tell us about How Group-based Programs Work, *American Journal of Economics and Sociology*, 58(1), pages 17-42.

Woolcock, M. and D. Narayan (2000): Social Capital: Implications for Development Theory, Research and Policy, *The World Bank Research Observer*, 15(2), 225-49.