AES presidential address, 2021: Policy analysis for rural resilience—Expanding the toolkit

Janet Dwyer

This paper is dedicated to the memory of my mother, Eileen Dwyer (1932–2020), an inspirational, creative and tireless teacher and enabler.

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Abstract
I reflect on the progress of policy analysis for sustainable rural development over my professional lifetime, and the implications for the future. In so doing, I emphasise the distinction between policy analysis and policy evaluation, and the importance of enabling and facilitating transformation to improve resilience in a time of climate crisis; both of which highlight the need for more inclusive analytical tools, concepts and approaches. The central focus is on the development of a conceptual framework which is dynamic, interactive and holistically systemic, elucidated through, especially, comparative case studies and social-ecological concepts. Recognition of the diversity of contexts and the heterogeneity of individual characters embedded in institutional cultures, which are of our own making, leads to a much richer and more resilient conceptual framework for analysis and effective diagnosis than the abstract and severely reductive textbook economic tradition. Future research priorities for agricultural economists are suggested: in new rural governance, mapping food systems, and enhanced performance assessment for farming businesses. In that context, a call is made for increased labour and skills in future UK farming.

KEYWORDS
agricultural economics, evaluation, policy analysis, research agenda, rural resilience, socio-ecological systems

1 PREAMBLE

I would describe myself broadly as an academic who has been working to understand and promote more environmentally and socially sensitive approaches to farming and rural development, particularly in the realm of public policy, throughout my career. When I first joined the Agricultural Economics Society (AES) in 1986, I was environmentally trained as a natural scientist, and was seeking to understand and critique what I perceived as weaknesses in orthodox economics and its ability to take the environment properly into account. In the 35 years since then, the Society has provided an excellent and stimulating forum in which these criticisms could be aired, shared and refined, in varying contexts, and the discussion and debate has developed considerably. Today, AES conferences showcase excellent work by agricultural economists and other applied scientists on sustainable agriculture and agri-food topics. Increasingly, our discipline has recognised the global relevance of sustainable rural development, and is embracing the urgency of the climate agenda. So,

I am extremely honoured and humbled to have been elected as the Society's President for 2021–22. In some small part, it indicates how far this journey is now a shared one for the agricultural and rural economics community, nationally and internationally. This address, therefore, offers a particular opportunity, through reflection, for me to give something back to all those AES members past and present who have given me food for thought and much support in my career, as we have faced the realisation of these growing imperatives, together.

The paper considers how policy analysis within agricultural economics can better facilitate the transformation of agri-food and rural policy and practice within the next decade, in response to the pressing global challenges of climate change and biodiversity decline. It is structured as follows: first, defining the terms within its title; then drawing out some policy and practice lessons from 35 years of past research analysis and experience; and finally suggesting three key concepts, with associated priorities and challenges, for future research. The narrative also seeks to pick up some themes of emerging consensus in respect of a broader need: to refocus economic inquiry, and reconsider its methods, in the pursuit of societal transformation towards resilience. The discussion aims to inspire more agricultural economists to embrace that consensus, and to pursue more ambitious and impactful policy research, in the critical decade ahead.

2 DEFINING TERMS

The paper uses the term *analysis*, not evaluation, when referring to the task of understanding policy through research. This distinction is important because analysis means both learning *from* policy and learning *for* policy; implying a broad examination of the issues and opportunities that policies seek to address and their impacts and implications, both intended and unintended, in multiple contexts. Policy *evaluation* can be, and often is, interpreted more specifically and narrowly as the task of assessing how a particular policy programme or instrument has operated within a given timeframe and/or situation. All too often, especially where a researcher or research team is contractually tasked with delivering an evaluation on behalf of a policy 'client', this becomes reduced to seeing how far 'policy X' has or has not delivered expected 'impact Y', without the resource or the permission to consider wider effects or further issues arising from its implementation, in complex and varied situations. Policy *analysis* is what an independent academic should always have the freedom to do, defining their own boundaries and seeking to advance thinking and understanding about the whole system of policy making and policy performance, in the specific contexts upon which they choose to focus.

Rural resilience is a complex term, and combines two words with variable interpretations. In this instance, both are used very broadly to reflect domains of concern to much current agricultural economics research. Resilience is defined by reference to the values enshrined within the United Nations Sustainable Development Goals (UN, 2015). These cover natural, human and social elements, from climate action and ending hunger to social justice and gender equality. They represent an internationally shared and widely endorsed set of societal aspirations for the coming decade, which will require sustained effort to pursue and uphold. Resilience can be seen as a key quality or characteristic that will enable people, societies and places to cope with increasing conditions of global change and uncertainty, in pursuing these aspirations. Encouraging rural resilience therefore can be seen as a basic precondition for future rural socio-economic and environmental functioning, or viability.

A useful clarification of the meaning and importance of resilience in the context of the EU's agri-food and rural resource challenges was developed in the SUREFARM Horizon2020 project. Meuwissen et al. (2019) identify three degrees of resilience—robustness, adaptability and transformation—highlighting how today's challenges require *transformation resilience*, because robustness and

adaptation alone will not be sufficient to prevent system crisis. The project team further concluded from their analysis that policy support for transformation in farming systems in Europe is generally under-developed, relative to EU identified needs and stated goals. Identifying how to develop better policy support for transformation, particularly via the task of policy analysis in the domain of agri-food and rural issues, is a central focus of the paper.

The term ‘expanding toolkits’ means a few things, in this particular context. As previously mentioned, the task of policy evaluation can often be narrowly instrumental, in that it examines policy instruments and goals in a piecemeal or partial fashion—for example, what did policy X do for jobs? What were the environmental impacts of programme Y? This partial approach is inadequate as a way to fully understand policies in real-world situations, where indirect and compound interactions occur between multiple actors, policy and market instruments, and wider contextual factors simultaneously. The motivations of actors transacting in markets and responding to policy and other drivers are also multiple, and influenced by a range of interconnected economic, social and environmental factors. These complexities mean that frequently, policy analysts need not oversimplify the situations that they examine and must take a more in-depth look at what is going on, and what it means to those involved, because these factors can all influence policy outcomes.

To illustrate with an example of something simple, consider a straightforward activity such as buying bread from the local bakery. Buying bread produced in a specialist baker's might reflect a customer's conscious commitment to a particular food and/or environmental ethic, or it might be a choice of simple convenience and proximity to where they live, or it might be a decision based on the specific attributes of the product (e.g., being able to purchase a still-warm loaf, smelling fresh). The baker and seller of the bread also acts from a complex set of motives and values—these have influenced their decisions about what varieties to make, how to price them and how to assemble an attractive mix within the shop, which itself creates a particular shopping context. The offer to the customer may include a friendly and welcoming environment, an education in good bread-making, maybe a guarantee of the quality and authenticity of product. The transaction therefore incorporates a wide range of assumed or expressed goals and values, for both seller and buyer, beyond the simple exchange of money to obtain food to consume.

A similar or even more complex mix of values, experience and attributes is evident in the case of public policies. Most often these are enacted through a mix of policy ‘instruments’ or ‘measures’ (commonly including regulations, incentives, supporting advice or information), applied in a variety of local conditions through different types of institutional structures, and seeking to strike an appropriate balance between multiple societal goals, at different scales. They are targeted at people and processes in many different ways and they are experienced and responded to in many different circumstances, reflecting the multiple motivations, understandings and values of actors in society. Yet in economic text books policy analysis, like market analysis, is often reduced to simple and highly abstract models based on very partial representations of actors, motives and outcomes. This simplification may facilitate mathematical analysis but it simultaneously reduces the value of the analytical process and its explanatory or predictive power, in respect of people's behaviour, and of societal change. To illustrate the dangers of this approach, Raworth (2018) uses an example of the common economic assumption of insatiable demand being confounded by the response of indigenous people to fur traders’ prices in nineteenth-century North America. Traders wanted to increase their supplies of pelts, so they offered hunters a higher price per pelt. However, this led the hunters to reduce their activities and provide fewer pelts, because their underlying motivation was to ensure they had enough income to live comfortably, rather than always seeking more income. Thus, the supply of pelts diminished in response to higher prices: the converse of assumed market behaviour. In the case of public policies, such ‘perverse’ responses to economic signals are also

common, as people act in the context of a range of other influences upon their actions when responding (or not) to particular policy ambitions or strategies.

If research is to take seriously the aim of understanding and informing enhanced policy, it is important for policy analysts to embrace the complexity of societal reactions and responses, through the application of appropriate models and techniques. Policy analysis needs to move away from reductionist, simplistic and static ideas about how policies, people and environments operate, towards more holistic and dynamic approaches which can represent societal goals, values and their interactions more fully. In so doing, this expansion of its toolkit will challenge both the concepts and framings that are most commonly applied within policy analysis today, as well as its methods and ways of working.

This shift in approach is particularly important now, because policy urgently needs to be able to embrace the significant challenges of our current situation, which are both complex and far-reaching. Recent and repeated pronouncements of the Inter-Governmental Panel on Climate Change (IPCC, 2019, 2021), drawing upon extensive research and analysis, have stressed the urgency of shifting societal behaviours in significant ways, in the next few years. This shift in approach is particularly important now, because policy urgently needs to be able to embrace the significant challenges of our current situation, which are both complex and far-reaching. Recent and repeated pronouncements of the Inter-Governmental Panel on Climate Change (IPCC, 2019, 2021), drawing upon extensive research and analysis, have stressed the urgency of shifting societal behaviours in significant ways, in the next few years.

> We will only be able to keep global warming to well below 2°C above pre-industrial levels if we effect unprecedented transitions in all aspects of society, including energy, land and ecosystems, urban and infrastructure as well as industry. (Debra Roberts, Co-Chair of IPCC Working Group II, 2019)
>
> The more decisively and the earlier we act, the more able we will be to address unavoidable changes, manage risks, improve our lives and achieve sustainability for ecosystems and people around the world—today and in the future. (IPCC, 2019)

Taking account of the climate crisis and the associated need for, especially, transformative resilience means that policy analysis must improve its ability to simultaneously characterise and work with societal and environmental responses. In respect of analytical techniques, the current revolution in data handling and manipulation, facilitated by information technologies, offers a wide range of new opportunities to market and policy modellers to collect and manage new, very large datasets. Much new work has been stimulated by the ability to search for patterns and potential relationships between variables, in these emerging sources. However, what is needed is more than just finding new ways to manipulate empirical data—no matter how interesting that might be in itself, and how useful, as part of a bigger picture. Neither can it be just about nudging people to make incremental changes to behaviour—as is currently favoured in UK government policymaking (ESRC, 2021)—without really altering their perceptions or understanding. In the experts' words, societal change needs to be both significant and lasting, in order to prevent further planetary warming beyond acceptable levels (IPCC, 2021). The tools of the policy analyst must become more effective, in this critical context, and need to both engage and engage with constituencies, communities and people.

3 LEARNING FROM THE PAST

Analysing past experience in understanding how policies operate is a rich way to identify lessons relevant to the future. In this paper, I consider my own 36-year research journey as an example.

3.1 Ecology and systems thinking

Ecology and the science of ecological understanding have expanded rapidly in the last half century. The seminal paper by Alex Watt (1947), 'Pattern and Process in the Plant Community', marked the birth of ecology as a distinct discipline in the early post-war period. As with many innovations in thinking during that time, it was more than 25 years until this approach became widespread or mainstream in science. Watt's paper provides a good example of how early ecological investigation added effectively to our knowledge. It is couched in very simple language, and seeks to explain and discuss very accessible ideas about how plants co-exist in the field. His key concepts include the idea of many *elements acting and interacting in a dynamic system*; which varies in space and time; and key to his analysis is the use of *case studies* compared and contrasted, to suggest general principles of how plant communities respond to different underlying conditions. The approach is *systemic*, *and based upon empirical comparison*, which then leads on to the abstraction and development of new theory from these empirical findings. It is essentially inductive, and the opposite of the deductive process used in many policy evaluations, which begins with theory (formulating a 'theory of change', or an intervention logic) and then designs an evaluative approach to measure the expected impacts. I argue that policy analysis could more fruitfully work with Watt's inductive and strongly empirical method, as far as possible.

My own doctoral thesis (1986–1990) applied a mixed-methods and comparative case study approach to understand the effects of the Common Agricultural Policy (CAP) and its implications for rural conservation, embracing nature, communities and businesses (Dwyer, 1990). The empirical work was undertaken following a period in the UK of both academic and popular analysis and commentary in which the CAP was portrayed as having directly and significantly damaged the British countryside (e.g., Body, 1982; Bowers & Cheshire, 1983). Authors and researchers variously claimed that generous financial support to UK agriculture following our accession to the European Economy Community (EEC) in 1973 had pushed the sector into a process of significant 'intensification', leading to farm enlargement, specialisation and associated landscape destruction and pollution. However, having spent many holidays in northern France during that period, and as a young and enthusiastic biology student, I had experienced a very different and apparently environmentally benign CAP, in that particular context. Farms in the Normandie Cotentin in the early 1980s were small, extensive and much less capitalised than those in southern England. Milking of small dairy herds (15–20 cows was typical) was still done by hand on some holdings, and by portable field-parlour on many others. Hedgerows contained an abundance of spring flora and species characteristic of relatively nutrient-poor environments, pastures were often dotted around with orchard trees, and every farm accumulated a large woodpile each year to heat the farmhouse over winter, created by the regular, cyclical management of small woods and linear features in the landscape. The village fete in early September celebrated traditional, multifunctional farming of sheep, dairy, apples and pears as well as the value-added products of that rich mix, which could be bought each week at the markets that were held on different days in all the main towns, in rotation. And yet Normandie had been subject to the regimes and subsidies of the CAP for over a decade longer than the UK. I was therefore driven to question whether, how and why such apparently contrasting ecological outcomes could arise in two biophysically quite similar situations, and notwithstanding the influence of such a 'Common' farm policy.

I determined to make a detailed empirical study, combining environmental and socio-economic data and analysis, to understand CAP impacts in Normandy and Wales from the early 1970s to the mid-1980s. This study gradually enabled me to explain why the CAP seemed to have worked effectively to support farms and protect landscapes, biodiversity and rural communities in France, and yet also to have driven and encouraged rural environmental and social decline in the UK, since its accession to the EEC in 1973 (Dwyer, 1990).

The quickest and simplest way to explain the conclusions of the thesis is by use of a metaphor. Basically, consider a model of the agricultural system within a country as a waterwheel, and the support mechanisms of the CAP—public funding and market stabilisation—as the water which flows over the wheel and makes it turn. The consequences of that movement of the waterwheel are changes in farming structures and practices, spurred by investment. Then, imagine French farming as being a waterwheel which is restrained, by applying brakes to the central mechanism. In this case, the water passing over the wheel (i.e., the CAP support mechanisms) will fill all of the little cups on its surface, but it won't drive any movement of the wheel itself, as this is restrained. Under the influence of CAP support and market stability, French farms across the territory were made richer but their structures and practices didn't change much, because other factors—in this case, national laws controlling structural change and holding back farm enlargement and specialisation—prevented that process. But then consider UK farming as a waterwheel that is left 'free' to turn (reflecting a more *laissez-faire* governance context, with relatively few restraints upon market forces, investments and structural change). Under these conditions, as the volume of water (i.e., CAP funding / guaranteed market prices) is increased, the wheel turns faster. So, in this case farms are stimulated by the policy to invest, changing more rapidly in response to market and technological developments. This more rapid structural change was seen in the pattern of significant farm enlargement, capitalisation and specialisation experienced by UK farms in the decade after joining the EEC. In Britain, the combination of economies of scale, stabilised markets and 'Mansholt plan' capital grants for farm modernisation perpetuated a climate of continued investment in new technologies to increase land and labour productivity in agriculture, which had actually begun prior to EEC accession in the 1960s. This simultaneously enabled a notable decline in the social significance of farming communities, and associated reduced environmental management, as the farm labour force continued a steady decline between 1973 and 1985 (Figure 1).

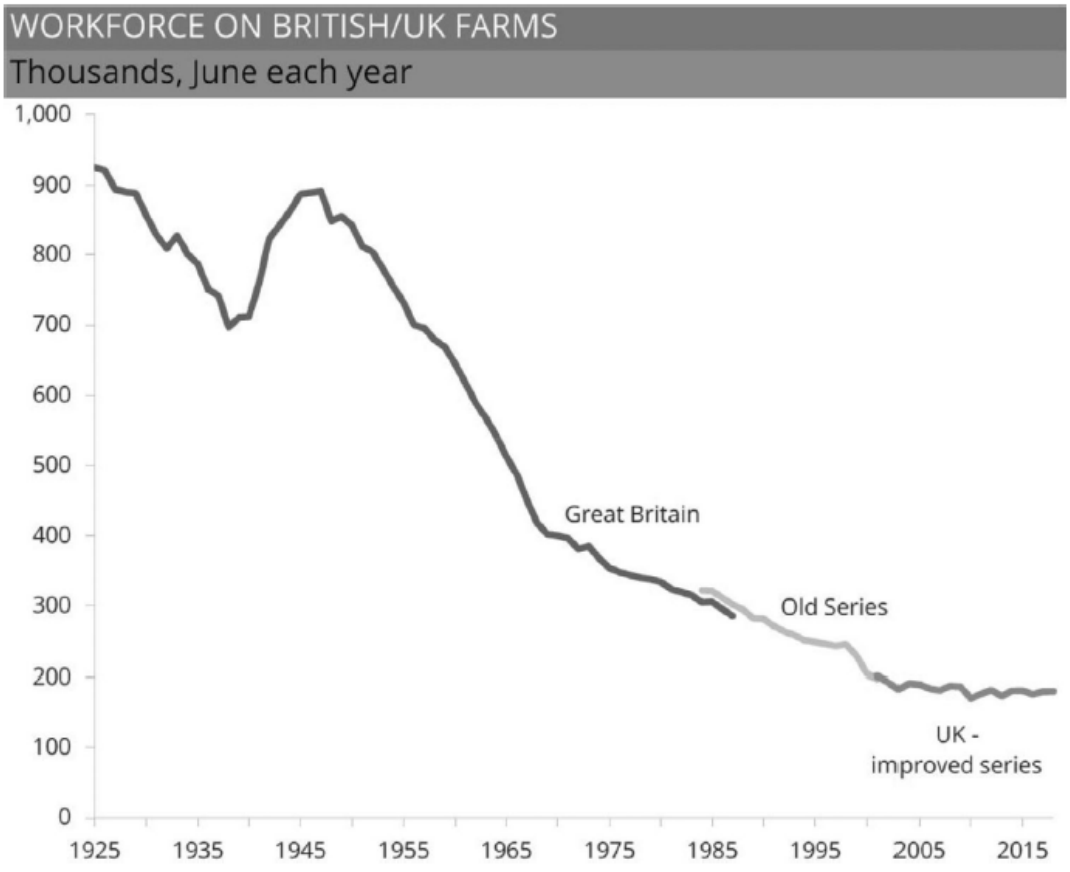

Figure 1 Long-term trend in farm labour force, UK (Zayed & Loft, 2019).

The most significant and general lesson emerging from this comparative analysis of policy operation and impacts in Normandy and Wales was ultimately to demonstrate *how much the wider (local or national) institutional context mattered*, *in dramatically changing the performance of an otherwise common set of policy instruments and measures*. In addition, it showed how this varying context arose not just from biophysical difference, but specifically from political and judicial difference, between the two countries and regions. The underpinning legal and fiscal contexts, in shaping the balance of public and private property rights and norms of behaviour, governed the functioning and the contrasting outcomes of both market and policy processes, as well as the precise nature of the linkages between them. This is a key, generalisable lesson for policy analysis. Contrary to the narrative of mainstream economic textbooks in that period (e.g., Lipsey, 1983), the basic characteristics of goods, services and markets in these economies are not universal or 'given': they are critically shaped by societal structures and norms, as determined by the particular choices of governments and the citizens whom they seek to represent. And these differences mean that the same policies have very different impacts on people and upon the environment.

Continuing in the research, development, critique and analysis of land use, environmental and agri-environmental policies throughout the 1990s enabled me to identify or clarify further important lessons, as summarised here. First, policies don't act alone, or in a vacuum: this is of course an obvious statement, but one that is all too easily overlooked in the routine work of evaluation and analysis. Policy instruments interact in the real world, and it is the combined effect of those interactions that we live with, alongside other drivers of change. Secondly, effects and causes can be very difficult to judge, in complex and dynamic situations, so the critical importance of *diagnosis* (the process that you need in order to identify, test and develop any 'theory of change') and of *process evaluation* (in contrast to *impact evaluation*), is highlighted. If policy evaluation and analysis is to serve the twin purposes of public accountability and policy learning (HM Treasury, 2011), then identifying and measuring only its impacts is not enough. A credible and robust understanding via causal analysis—that is, working out how these impacts are generated—is also critical.

Systems thinking is an approach that offers particular value in understanding and improving policies for sustainable land use. A systemic approach enables the complexities and dynamic interactions between policy instruments, actors and other drivers, in specific territorial or temporal contexts, to be represented as key elements and interlinkages within a system (Acaroglu, 2017). Mapping the system involves assembling a diagrammatic representation of these elements and linkages—as can be simply illustrated through the example of climate change and its impacts upon UK land use (Figure 2). The principal phenomenon of a two-degree temperature rise has immediate implications for agricultural productivity, and thus for land use change in different types of landscape settings, also including other sectors beyond agriculture, and thence to the combined impacts of these different changes at a wider scale. Add to this a climate mitigation move to replace fossil fuels with renewable energy generation, leading to further changes in demands on land use, and the picture is assembled of a whole array of inter-connected shifts, creating significant land-use and associated community implications at regional or national level.

A systems approach can be used to help think through and understand the influence of policy upon rural change, in specific territorial contexts. The 'Rural Development Impacts' (RuDI) EU-funded project (2008–2010) represented for me the culmination of almost a decade of work to analyse the so-called 'second pillar' of the CAP, following its creation in the Agenda 2000 reforms. In RuDI, a multidisciplinary team of policy analysts and economic, social and environmental change experts adopted a systemic approach to understand EU rural development policy under the CAP, in the 2007–2013 programme period. The research considered both its impacts and the policy processes stimulating them, and built a holistic appreciation of the scope for policy enhancement in the

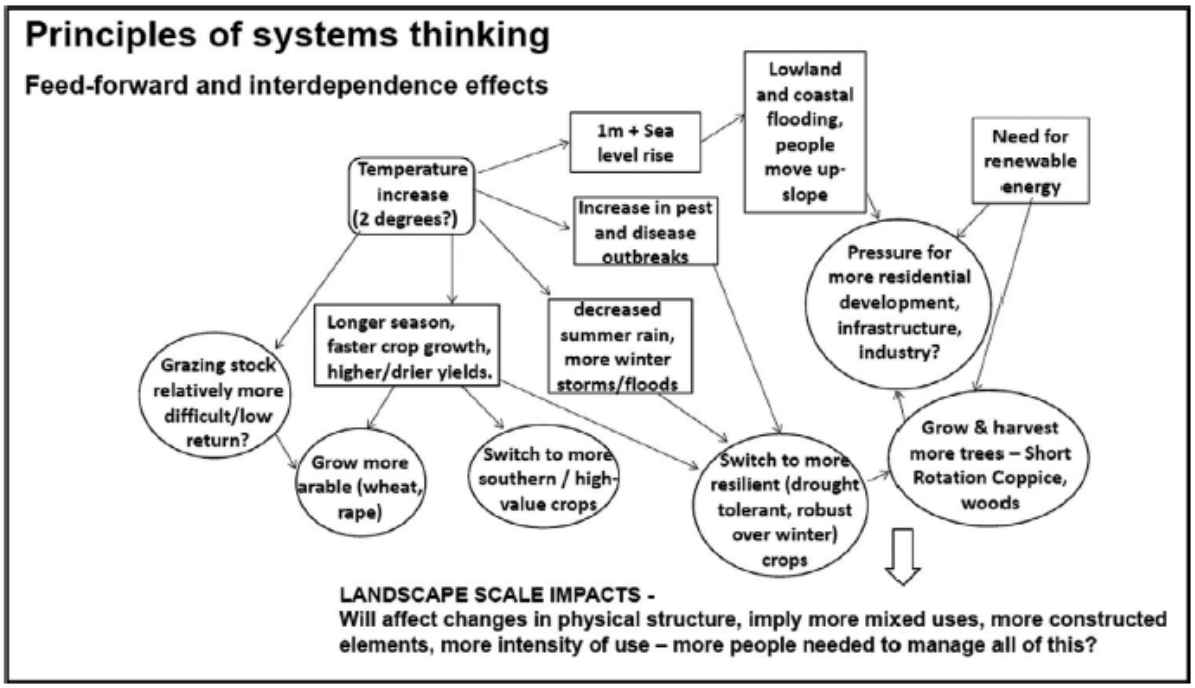

Figure 2 Simple illustrations of a systemic understanding of climate change impacts on UK land use (source: the author).

context of continuing reform, feeding into the EC's proposals for the next phase of CAP rural development funding, 2014–2020. Using detailed case studies from a variety of localities, this research showed the particular value of *territorial policy analysis*, with an emphasis upon understanding the lived experiences and views of local people within those territories, to appreciate policy performance in context. RuDI was thus able to produce recommendations for how to analyse policy processes in a more systematic way (Hülemeyer & Schiller, 2010), borrowing techniques from business and management disciplines, and refining ideas in close collaboration with policy and practice stakeholders.

A territorial analysis of policies affecting English upland farm landscapes was the focus of a RuDI case study that examined Exmoor in south-west England and Bowland in Lancashire. In this, we identified similar territorial processes and contexts that were leading to perverse agri-environmental policy outcomes (Dwyer, 2013). Analysing the system at a landscape scale demonstrated how a combination of policy and market drivers acting together on farm businesses was leading to a breakdown of traditional land use patterns, shifting farm structures and practices away from those which the agri-environmental policies had been established to maintain and strengthen. In this particular context, these incentive schemes acted alongside environmental regulations to exacerbate negative change, by reducing farm businesses' relative economic interest in holistic landscape management including the moorland as well as the in-bye. The territorial analysis was able to identify, and diagnose the rationale for, a level of systemic failure in policy that the formal monitoring and evaluation of the Stewardship policies had hitherto missed (Figure 3).

In a 2007 study on 'how to encourage positive environmental behaviour among farmers and land managers', for Defra, our research identified how, for the farming recipients of policy initiatives, it is their cumulative impression over a period of time that informs responses, and not just one measure or initiative that is newly offered. Policy-makers can't expect to achieve desired change by addressing only one activity at a time, if its rationale is contradicted or undermined by the influence or inference of other past or current policies. It is important to understand all the 'layers' of public policy messaging if you want to convert people to new ways of doing things. Inconsistency in the

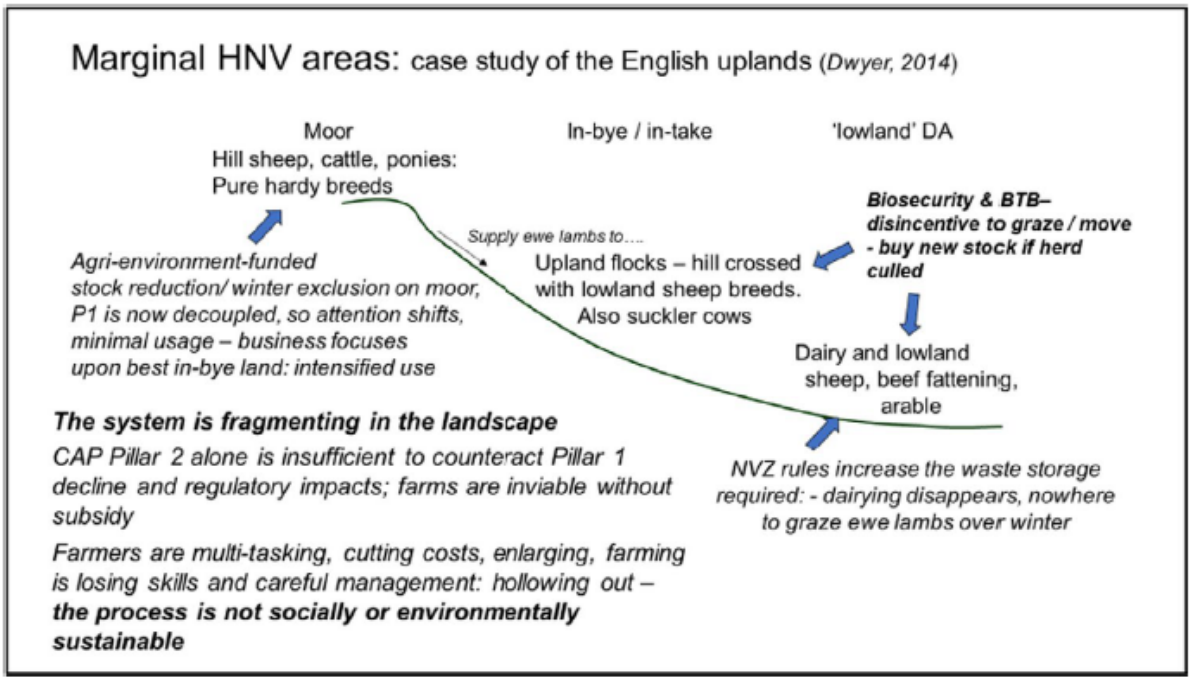

Figure 3 Territorial policy analysis—the English uplands (source: Dwyer, 2013). Note: P1 = BTB = Bovine Tuberculosis; CAP Pillar 1 direct payments; CAP Pillar 2 = rural development incentives, including agri-environment schemes; NVZ = Nitrate Vulnerable Zone designation

policy message was an important factor which weakened the performance of English agri-environment schemes during the late 1990s and early 2000s (Dwyer, 2013; Hall & Pretty, 2008).

The value of systemic approaches to policy analysis is also evident in other contexts: for example, in the powerful method of *comparative agriculture* (Cochet, 2015), as taught to students at AgroParisTech, France. This approach entails making an in-depth 'agrarian diagnosis' of a particular farmed territory using the multi-layered application of geography, geology, documentary and oral history, agronomy and agricultural economics, to all of its main farm elements. The diagnosis is territorial and systemic, and produces a very fine grain of spatial detail—with all the main farm system types (e.g., spring calving dairy, rearing dairy replacements, suckler beef with sheep, specialist horticulture, etc.) characterised and examined individually and in spatial combination across the landscape. This enables the analyst to explain how and why farms in this particular landscape have responded to a long sequence of policy and market changes, over time, providing useful interpretive and also important predictive insights, in that context. Here in the UK, this sort of analysis is rare but can offer particular value in monitoring the current process of agricultural transition that is working its way across the four countries (Lenormand, 2021).

The Japanese concept of *Satoyama*, and the International Partnership for the Satoyama Initiative (IPSI) launched at Nagoya in 2010, identify the importance of interlinked human and natural systems to future sustainability (Fukamachi, 2020). IPSI uses the term 'social-ecological production landscapes' to characterise how these traditional systems showcase how nature and culture can work synergistically together, rejecting simplistic trade-offs between food production, environmental quality and social value. In a similar way, the Horizon 2020 PEGASUS project (2015–2018) developed an analytical approach to policy using the theory of social-ecological systems, enabling creative thinking about the future CAP (Dwyer et al., 2020). Figure 4, taken from the project's conceptual framework, illustrates how agriculture and forestry jointly create a range of public and private goods and services, in a systemic diagram.

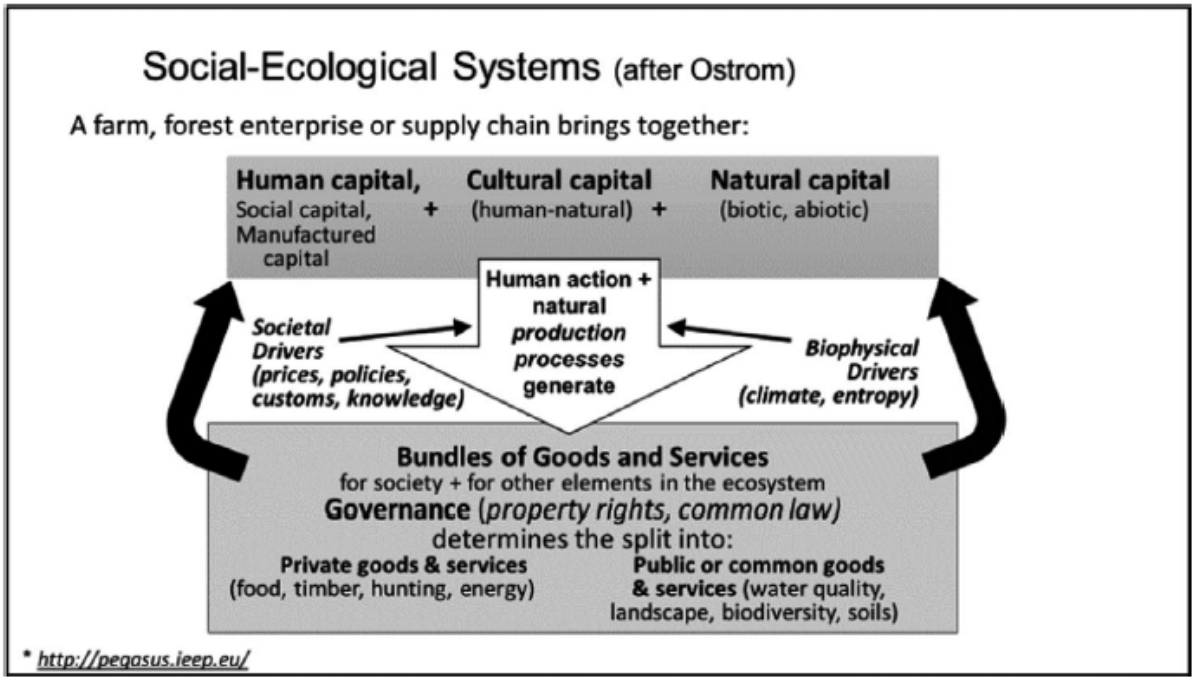

Figure 4 Pegasus S-E-S conceptual framework (from Dwyer et al., 2019)

3.2 Rethinking the assessment of farm and rural business performance

The second key lesson from past research focuses on the need *to better integrate environmental and social values into farm and rural business theory and practice*, which I believe is critical to developing and sustaining future rural resilience. Contemporary understanding of the nature of roles and relationships in 'enterprise ecosystems' can inform, and help to reshape along more sustainable lines, our understanding of rural economies and businesses.

As a society or cultural grouping, many western-world democracies have operated over the past century with a simple view of economic interaction that closely mirrors what could now be termed 'Darwinist' theories about the nature of interactions in ecology. In brief, the approach presents 'survival of the fittest' as its maxim, which offers a severely reductionist interpretation of Darwin's 1859 theory of evolution by natural selection. That, in turn, fed into the classical economic theory of competitive market behaviour as first formalised by Walras in the 1870s (1969) and developed further by Jevons and Menger. This 'marginalist' theory of perfect competition reinterpreted Adam Smith's (1776) original description of the virtues of exchange driven by enlightened self-interest, presenting it as a blueprint for market behaviour at scale, notwithstanding the huge changes brought about through industrialisation and imperialism in the intervening period. Through this lens, so long as the conditions of perfect competition are assured, the market allocation of resources should be perfectly efficient and society should attain a situation of maximum welfare (Pigou, 1920). In reality, markets seldom work with such unbiased precision, as noted by a wide range of critics (Daly & Cobb, 1990; Fine & Milonakis, 2009; Mazzucato, 2019; Vatn & Bromley, 1997; Harvey, 2005; to mention a few).

System characteristics and component behaviours developed in ecological theory offer a different and potentially equally valid way to explore transactions and market processes in economics, emphasising alternative and/or complementary aspects of business behaviour. There is a growing body of evidence suggesting the utility of these approaches in interpreting and understanding economic phenomena. For example, David Zilbermann's (2019) work on punctuated disequilibrium shows how innovation in markets works against the attainment of 'perfect competition' or market

equilibrium, over time. This more ‘chaotic’ understanding of system behaviour (Gleick, 2008) is found equally in ecology, where it has long since overturned previous notions of ‘environmental equilibrium’ and ‘climax communities’ and led to explorations of the significant role of disturbance in generating and sustaining biodiversity (Sousa, 1984).

From earliest work examining the ‘ecology’ of growth and development among Conservation, Amenity and Recreation Trusts (Dwyer & Hodge, 1996), I was privileged to be a member of the National Trust's ‘Rural Enterprise’ panel for 9 years, as well as working on many policy evaluations requiring direct engagement with farmers all over the UK. These many and varied visits often entailed examining and analysing farm business motivations and environmental goals together, seeking to suggest opportunities and resolve conflicts for different people in different places. I was also fortunate to study, evaluate and learn from the European LEADER initiative for local, integrated sustainable rural development, over a similar period. These experiences present many alternative ways of understanding and characterising rural business development and success, drawing from the personal motivations and values of farmers and rural entrepreneurs, and embracing both private/commercial and more social or non-profit enterprises among the types of business examined.

As expressed by the many business innovators, managers and developers encountered in these multiple contexts, success often entailed creating or refining a business to reflect its owner's or originator's personality, reputation and feeling of self-worth. In many cases, the goal of initiating and then developing the business was ultimately to achieve a ‘sufficiency’ of quality and scale over the long-term, rather than rapid or continuing growth. Monetary returns are important but expectations are not infinite, in most cases, and ambitions evolve alongside the progression of the business. Competition undoubtedly has relevance as a motivator and shaper of behaviours in markets, but many small rural businesses exhibit and explicitly value qualities of trust, reciprocity and respect in their market interactions, and there is a strong mix of pragmatism and ethics in their day-to-day activities. Pleasure and satisfaction derive from customer thanks for a job well done, repeat purchases, and an ability to respond to clients’ or customers’ changing needs and situations. Often also, looking after a long-standing workforce that is part family and part employee-based, is a strong element in decisions. At the same time, business-to-business interactions are also a frequent feature of ‘success’: esteem among peers is valued (Mills et al., 2010, 2017), and businesses can help each other in a wide variety of spontaneous or more stable inter-relations. Interdependence between businesses of different ages and scales but operating in similar markets is frequently mentioned, particularly in discussions about how a new enterprise was developed.

Different types of business structure and operation are a particular focus of the LEADER approach, which is embedded within a wider concept of place-based, asset-based neo-endogenous development. Figure 5 illustrates how, in the process of creating their local development strategies, LEADER groups may generate new ideas for potential business models from broad audits of local resources and opportunities, as well as the bringing together of multiple actors and sectors in order to plan ahead. This kind of activity can spawn genuinely new ideas for commercial and social enterprise, which are then developed.

These phenomena are not new—they are recognised in much (small or SME-) business literature. But, currently, they are seldom built formally into considerations of rural policy design and development.

Turning to how acknowledgement of diversity in business motivation and indicators of success sit against the trajectory of farming change in past decades, and particularly in the context of sustainable development (economic, social and environmental), I have become increasingly

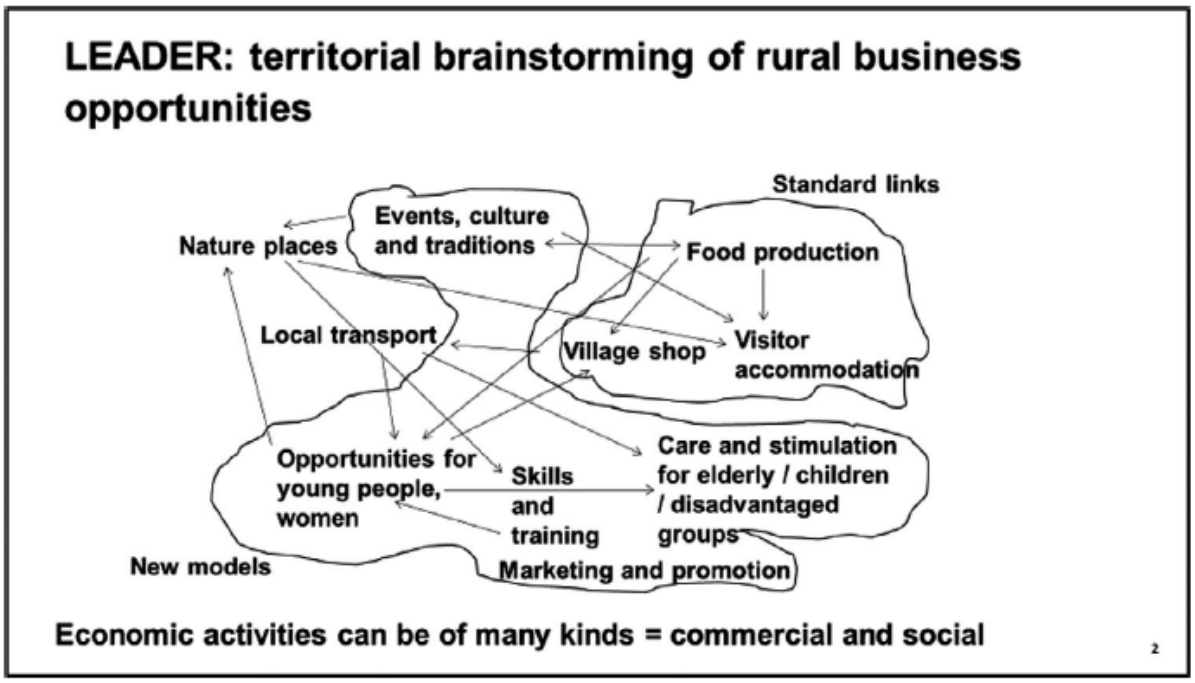

Figure 5 A mind-map of a characteristic LEADER strategy development process (Source: the author).

dissatisfied. The outcomes of a persistent trajectory of pursuing and adopting 'economies of scale' and growth-oriented business development in agriculture seems to me to do few favours to farm (business) communities or to the condition of the environment, in the long term. Others have drawn similar conclusions (e.g., Pretty, 2002; Van der Ploeg, 2003). As analysts and theorists, I feel agricultural economists haven't done enough to question whether individual business growth, performance measurement via single-enterprise net margins, or increased productivity measured against labour or land, are either desirable or inevitable goals and outcomes for farm and rural business development in a world of finite natural resources facing many social and equity challenges. We need to examine our roles as analysts in potentially contributing to negative trends in agricultural sustainability, through the ways in which we judge and measure business performance. I suggest that building our measurements of business success around wider perspectives, which better reflect the range of goals of different food producers and environmental managers, would identify quite different trajectories of development that could be more resilient and sustainable than those that currently persist.

I have come across many examples of UK businesses which exemplify characteristics of value-added, place-based and sustainable enterprise, in recent years. Many illustrate social, environmental and economic credentials together, such as Barfoots,[1] a family business growing vegetables to LEAF standards in three continents; and Bowmont,[2] who produce fine wools from their Devon sheep for the high-end knitwear market. There are many more examples across the country. Such businesses are selling locally and regionally and increasingly operating via online markets as well as face to face, especially since the Covid-19 lockdowns. But, although they are frequently showcased in popular business media, these strategies, and their attributes and development, are not analysed in agricultural economics literature with a view to deriving new generalisable lessons or theories to help steer a successful agricultural transition. We need to be able to do this.

[1]https://www.barfoots.com/

[2] https://www.britishfarmingawards.co.uk/lesley-prior-silver/

4 LOOKING TO THE FUTURE

Agricultural economists need to prepare for the challenges ahead. For climate, the IPCC texts of both 2019 and 2021 are very clear about the need for significant change, calling for rapid and unprecedented transitions in all aspects of society. In respect of biodiversity, the Dasgupta report (2021) calls for an end to society's focus on growth as the route to addressing all our goals; echoing the recommendations of the Club of Rome report written almost 50 years ago (Meadows et al., 1972). These contemporary, respected authors are not people who sit at the margins of science: as mainstream experts, they require a mainstream response.

In order for our future work to contribute in a significant and positive way to future rural transformation resilience, our economics needs to evolve to be more open to disciplinary expansion and even migration. It must have the capacity to better analyse processes of exchange and support the wise allocation of scarce resources to meet our pressing twenty-first-century needs, in which environmental and social goals are inextricably linked to those of the economy. Recognising the limitations of working too narrowly with market signals, pricing and efficiency (doing things right) we need to combine economic perspectives with those from sociology and psychology, law and politics, environmental science and geography, and to have an eye on ethics, as well as systems modelling in mathematics, to better reflect these goals, and to do the right things. Other economists have recommended rethinking and broadening how economics operates. David Harvey, almost two decades ago (2004), called on agricultural economists to recognise a need for new conceptual approaches. Marianna Mazzucato (2019) highlights the importance of understanding what is valued and being explicit about societal priorities, in future economic analysis. She also talks about policy's role in co-creating markets and value. Sheila Dow (2017) discusses how ethics are unavoidably mixed up in economics, and calls for a more systemic and pluralist approach to its practice. And Kate Raworth (2018) proposes a new perspective for economics, which reframes its basic assumptions and its models within a contemporary agenda for sustainable development. These ideas are challenging and changing the nature of economic theory, in different contexts.

In the specific field of agricultural and rural economics, I suggest three specific priorities for future research that will be critical to supporting successful transformation for rural resilience.

4.1 Governance for resilient rural futures

Identifying, analysing and fostering enhanced governance is something that we urgently need to address. Increasingly, the public interest in privately held land and resources is recognised but we need better, more sustained, less bureaucratic and more empowering ways to bring this to bear in future land management practices. We have a particular opportunity to reflect it through the new post-Brexit policies in the UK. The Environmental Land Management tests and trials in England (DEFRA, 2020), and ongoing discussion and development of new policy frameworks across the countries of the UK, are generating an impressive array of new or resurgent local knowledge and stakeholder engagement in environmental planning, mapping, measuring and management. Given the relatively short-term policy horizon for realising these developments, there is an urgent need to develop appropriate agri economic analysis and input to shape these policies' development and implementation. This analysis needs to incorporate institutional, behavioural and judicial theory as well as business understanding, to help support and facilitate a new land-based, climate-proof and sustainable policy agenda, and, importantly, a capacity for policy learning. Agricultural economics should be able to provide policy-makers with evidence and ideas to give them the confidence to change formerly entrenched and overly centralised ways of working, in this arena (Dwyer & Hodge, 2016; Hodge, 2016; House of Commons EFRA Committee, 2021).

Social processes play a central role. Initial work has identified conditions and practices that can reinforce beneficial change through social processes, via action-oriented and participatory research with stakeholders and policy-makers (Dwyer et al., 2020). There is scope to pursue and develop these ideas further, particularly as the new UK policies take shape and are refined, in the next few years.

4.2 Enhanced food (and fibre) systems analysis

Food systems were highlighted as a rich area for further research at the Agricultural Economics Society one-day conference in December 2020. There is a need to better understand and measure the influence of supply chain inequalities, poor information, and classically 'chaotic' systems behaviour in food economies, in order to identify where policy and strategy could promote more sustainable and resilient practices for the future. Taking on board the whole of the system, from primary producers to final consumers via processors, manufacturers, distributors and retailers, offers enhanced scope to pursue a more balanced net-zero agenda than can be achieved by considering farming and forestry in isolation. As identified in the Farm to Fork strategy, this involves many actors working together:

> 'A shift to a sustainable food system can bring environmental, health and social benefits, offer economic gains and ensure that the recovery from the crisis puts us onto a sustainable path. The transition to sustainable food systems requires a collective approach involving public authorities at all levels of governance, private-sector actors across the food value chain, non-governmental organisations, social partners, academics and citizens' (European Commission, 2020)

That also means challenging the reductionism inbuilt in the conventional economic stance of 'intervention only to correct market failure', which so badly misrepresents the problems generated in these systems and the options for addressing them. Partnership between private and public efforts appears increasingly an essential element in building more resilient food futures. But where are the economic theories and tools that can analyse what goes wrong and why, in current food systems? Research could be helping to consider how to design more efficient joint action, also learning from other countries and policy areas (e.g., social welfare, training and skills) where public and business partnership is more common.

4.3 Rural enterprise and innovation for resilient futures

The domain of rural enterprise and innovation is one where a lot of new work is needed, to allow contemporary economic analysis to catch up with shifting societal needs. For sustainable resource use we need to promote a triple bottom line perspective, to encourage businesses simultaneously to fulfil economic, social and environmental goals, rather than only one of these at the expense of the others. That means holistic and dynamic performance measurement, with new tools and benchmarks, as well as investigating how these tools can reshape market norms and standards.

In that context, I am concerned about the prevalence right now of policy encouragement for agricultural 'productivity', when it is still measured in conventional economic (reductionist) terms, by reference to land or labour. By ignoring in particular the importance of the social 'leg' of the sustainability stool, our vision on this front will remain unbalanced, and our stool will therefore not be resilient.

Specifically, why should we try to minimise the input of some of our most precious renewable resources in agriculture—human and social capital—to generate a given level of output? To eliminate our reliance on non-renewables and protect nature, culture and well-being, the evidence suggests that we should be arresting and even reversing the substitution of labour for capital that we have seen for so long in the farm sector. Careful environmental management combined with

sustainable food production and energy generation demands considerable expertise, and headroom for planning and innovation. That means having and adequately sustaining skilled and valued people on the ground; not just overworked farmers who look 'efficient' because their labour force is stripped to an absolute minimum. Good value-added businesses can generate this headroom, but fostering these businesses requires up-front investment and advice, and a richer conceptual framework.

It is neither ethical nor efficient to just withdraw subsidy and wait for the dust to settle on a further concentrated agricultural sector. Yet this is what I fear that some economists and policy-makers believe is the right path for our future here in the UK.

5 CONCLUDING REMARKS

Summing up, these future research areas require:

- a mixed-methods approach, and one which can fully embrace systems analysis. It should be able to challenge orthodoxies in standard micro-economic theory and market analysis, redesigning the tools of measurement and optimisation, but also applying alternative perspectives—for example, better theories of value—to better reflect current situations and accommodate future needs;
- the courage to strip out the baggage of terms and methods which lock economics into a narrow focus on partial financial snapshots and seeing price as synonymous with value;
- that economists should work actively with expertise from other disciplines, to enable more holistic and integrated understanding of complex problems and potential solutions.

Understanding how to reverse the hollowing-out and asset-stripping pattern of farming change over the past half-century, to re-enthuse citizens, investors, policy-makers and young entrepreneurs in the art of sustainable, multi-functional rural resource management, and to better bring long-term practitioner knowledge into the centre of policy planning and development would, I believe, be a worthwhile future agenda for rural resilience. And revaluing primary production and its role, and ensuring that people and nature can more strongly reconnect through that process, would be the broader aspiration behind such a policy ambition.

To bring this final point into a sharper focus, this paper ends with a true story from a special research sabbatical in Japan, in 2017. For it, I am indebted to Dr Takahisa Hinata, an agricultural economist and rural development adviser in Sapporo, Hokkaido. This northern island of Japan has suffered the classic challenges of late twentieth-century retreat from marginal areas, similar to what has been seen in the countries and regions of northern Europe, in recent years. Takahisa and I spent a week together, exploring the island and discussing its challenges and prospects.

In a small village we met a farmer in his forties with a young family. He had returned to the village at the behest of his father, to take over the family farm. He grew tomatoes and aubergines in polytunnels and some outdoor vegetables, on a small plot, and was developing local markets for his produce. He had left Hokkaido to go to university, and had been working since then in Information Technology development, in Tokyo. I asked him how he felt about the change in his life, making what the Japanese call the 'U-turn' in coming back to the village where he grew up, after some time away working and building his career in the city. He told me: 'ten years ago I worked for twelve hours a day in an office with no natural light, and I had a permanent cold sweat from the pressures of my job, and I was not in control of my life. Today, I work fewer hours, in the outdoors, and I have a healthy, warm sweat. And although it has been some years in development, this year I made more money from my vegetables than I ever earned in my job in Tokyo, and I am free to make my own

decisions.' I would like to think that through our work as applied economic researchers and policy analysts, we could all help more people to have that opportunity, in future.

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