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Transformation for sustainable agriculture: what role for the second Pillar of CAP?

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Abstract. EU agriculture and rural areas face significant medium-term challenges arising from existing and 'new' sources; as acknowledged in the EU2020 vision. The European Commission has placed emphasis upon innovation as a key element in achieving transformation, in the coming decade. Findings from a recent study for the European Parliament highlight the potential role of Pillar 2 rural development programmes as vehicles for enabling innovation. Key roles include supporting knowledge exchange; collaboration; and research-into-practice linkages. Effective knowledge exchange (KE) is a critical element, but innovation in KE itself is often needed. Collaboration can be valuable in fostering cross-sectoral linkages, and communities of learning show innovation potential. Integration of measures in tailored packages appears to increase the scope for innovation. Equally important, there is a vital need for innovation in policy design and delivery, to enable a cost-effective transformation of agriculture and rural areas. The CAP proposals 2014-2020 make a positive contribution to better promote innovation through Pillar 2, but there is room for improvement. Models for policy innovation adapted from experience in commercial organisations are suggested as worthy of further research.

Keywords. Rural Development Programmes, innovation, knowledge exchange, policy design and delivery

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1. The context – challenges facing EU agriculture and rural areas

It can be argued that Europe's greatest rural challenge in the years ahead will be to provide a wider, more varied and more complex set of goods and services than has been encouraged over the past 50 years, in a way which can be sustained in the face of increasing pressures from exogenous factors.

The realisation that we have probably passed 'peak oil' – meaning that global oil exploitation has passed its peak levels of extraction – is set to change significantly Europe's reliance upon fossil fuels, going forward. Petro-chemicals today provide most of Europe's energy; also some of the key inputs to agriculture (most notably, chemical fertilisers); and materials used in food supply chains. The EU will need to reduce its reliance upon

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non-renewable energy, not just because it will become more expensive to obtain, but also because its use contributes to global warming. Thus renewable fuel and energy production seem likely to become a significant and lasting feature of the European countryside, and there may also be a sustained growth in the use of rural resources for construction, textiles, packaging and other non-food consumables.

At the same time, the characteristics and capacities of rural Europe will change. The ESPON-CLIMATE study (2011) sought to assess EU regions' vulnerability to climate change over the next century. It predicted that in the north, higher rainfall and more coastal surges will increase the risks of regular and severe flooding around low-lying deltas and coastlines. In the south, the key challenges will be water scarcity and extreme summer temperatures, with significant consequences for rural resource use. Less water will be available, and rainfall will come in shorter and more severe episodes, placing emphasis upon the need for rainwater harvesting, recycling and conservation. People in towns and cities will demand more energy-intensive air-conditioning, as well as more water, during the summer months: all of this has implications for rural resource use.

The DEMIFER study (2010) suggests that population in the EU will continue to grow slowly but unevenly across the territory, with decreases likely in many new Member States, Finland and north-west Spain, whilst populations expand in the south-central Mediterranean and around the coastal areas of northwest Europe. This pattern seems likely to exacerbate demands upon rural resources in certain poorer regions such as western Portugal and Ireland; to increase water demand all around the Mediterranean coastline; and to expose many more people to the risks of flooding in north-western regions.

The EU 2020 vision (European Commission, 2010) identifies that Europe must become more competitive, in the context of a liberalising global trading regime. The underlying aim is to give the EU a *qualitative* advantage over other countries and continents which produce goods and services at lower cost. With significant growth in Asia and South America, shifts in demand and supply are likely to displace the EU from its current position as the largest market for food in the world. Global food demand is predicted to increase substantially in the next 50 years. Food production in Europe remains important for EU food security and perhaps also for export, but it must be achieved in ways which accommodate other needs.

Ecological science over the past 30-40 years has greatly increased human understanding of how living and non-living elements within the environment work together in complex ecosystems. Soil health and ecology and the viability of freshwater habitats are key ingredients. Yet these assets are declining, despite more than 30 years of policy action (Millennium Ecosystem Assessment, 2005). Agriculture and rural resource management must become much more supportive, and less destructive, of basic ecosystem services, in future.

Economic circumstances create new challenges. The EU is in a period of economic stagnation and/or recession, negatively affecting growth and quality of life in many Member States (MS). Whilst the demand for basic resources like food, energy and water is not predicted to decline, a contraction in the availability of public support is likely, as governments implement austerity plans and public services are down-sized or privatised. The two largest spending elements in the EU budget are the CAP, and regional development policy. A sustained reduction in the EU budgets for both these elements can be expected.

These are some of the main challenges facing rural Europe and its agriculture, in the

decades ahead. Their message for current policy and planning, is that 'business as usual' will not be a sufficient response. Within the next 20 years, the MS need to achieve a 'step change' in agri-food systems and in the careful planning and management of rural resources through policy, in order to sustain their capacity and provide for European society. Europe's Standing Committee on Agricultural Research (SCAR) refers to the need to "enable agriculture to cope with a range of complex and interlinked challenges, such as rapidly increasing globalisation, climate change and unsustainable consumption of natural resources" in its report "Agricultural Knowledge and Innovation Systems in transition" (March 2012).

2. Transformation and the role of Innovation in Agriculture and Rural Development

In this context, innovation has emerged as an important concept for EU policy. Innovation simply means doing things, or seeing things, in a new way. And 'new' must be a relative concept, in this analysis. Innovation embraces not only situations where someone invents and exploits something which has never before been produced, but also situations where someone introduces a different approach which might not be unique, but which represents a novel application or new context for that approach. So, innovation can be more or less radical, but what defines it is its relative novelty and, by implication, its potential for positive development within a particular context.

The European Commission has written much about innovation in recent years (Hermans *et al.*, 2010). Innovation is seen as playing a critical role in achieving the EU2020 strategy goals, and greater emphasis on innovation has been placed within the legislative proposals for rural development policy under the CAP. Historically, innovation in the agricultural sector has tended to focus upon cost reduction and/or new product development. In respect of rural development, innovation has been promoted in LEADER and other Community Initiatives, as well as in research. In general terms, it is possible to identify at least two dimensions to innovation:

1. Technological progress, where commercial farmers, food processors or other rural businesses adopt new technologies or practices where innovation is embodied in these new practices as developed and promoted by research firms and/or extension agents. Farmers or entrepreneurs 'innovate' by being early adopters of such practices. In some cases, innovation comes direct from businesses themselves (e.g. as among farmers practising Integrated Crop Management, experimenting to reduce inputs without compromising yields);
2. More fundamental innovation, where the whole land and/or business management system changes to incorporate new modes of behaviour – for example, community-supported agriculture or social farming; or integrating food production with leisure, energy generation, retail or tourism; or new forms of vertical integration or short supply chains (e.g. for pharmaceuticals or novel crops).

It is commonly assumed that scientific and technological research promotes innovation. But simply generating new knowledge through this process won't necessarily lead to innovation in practice, in agriculture or rural development. Analyses provided in the context of the "International Assessment of Agricultural Knowledge, Science and Technology

for Development (IAASTD)" (McIntyre *et al.*, 2009) suggest that the further evolution of agricultural innovation needs to go beyond simple technological and technical questions to innovate in scales of thinking and action, in addressing the challenges of global food security and climate change.

What are the conditions needed for innovation?

Innovation at the level of individual businesses, regions or product sectors often depends upon entrepreneurial confidence and the acquisition of skills and information which can be applied to generate improved performance or increased resilience. At a practical level, ingredients for successful innovation include good information and understanding; the means to effect change on the ground; and the ability to be recognised and/or rewarded for the positive results of changes. In recent work on farmer behaviour, these have been termed farmers' 'willingness to change'; 'capacity to change'; and 'engagement' with the wider socio-political agenda (Dwyer *et al,*. 2007).

At the territorial scale, innovation is particularly linked to the ability to undertake problem-solving activities through the bringing together of actors and/or expertise from different territorial and policy contexts, to gain new insights and wider perspectives, enriching actions (Knickel et al., 2009). Social capital, particularly 'bridging' or 'linking' social capital which enables groups to source ideas and knowledge from outside their immediate circle, can be an important factor (Copus *et al.*, 2011).

In these contexts, therefore, how best can policies promote innovation? As one official from the Commission recently emphasised (DG Agri, pers comm), you cannot force people to innovate. However, you can attempt to create a climate in which innovation is favoured, and policies can play an important role in this. Drawing together experience with CAP and rural development funding to date, as reported and assessed in local evaluations, policy reports and interviews with selected experts across the EU, a recent assessment for the European Parliament (Dwyer *et al.*, 2012) highlighted the following as critical factors.

Knowledge exchange (KE) as innovation, and innovation in KE

It has long been recognised that knowledge exchange is critical for innovation and transformation. A body of work in respect of agricultural innovation indicates that *bringing science closer to practitioners* can be a positive step. So, scientists may work closely together with farmers to monitor how changes in practice affect key environmental variables like soil condition and water quality, for example (Whatmore *et al.*, 2010). And farmers may be able to help scientists to identify where best to focus their research attention, through interaction and discussion. In some situations, farmers can themselves be involved in 'doing' research: analysing and testing different options and learning from the results (as noted in respect of 'minimum-tillage' developments in England – Dwyer *et al.*, 2007). Researchers at Wageningen have promoted the benefits of '*communities of practice*' *and 'co-learning*', based upon work in the Netherlands and elsewhere, in which scientific knowledge and endeavour partner with commercial land management so that both sides learn from each other (Rőling and Wagemakers, 1998). Effectively, these approaches see

innovation as a social process, involving networks and interactions as well as technical and managerial change at farm level (Hermans *et al.*, 2010).

Considering good practice within the LEADER community initiative across the EU (e.g. Lukesch, 2003), also similar approaches under the *Regionen Aktiv* programme in Germany (Peter, 2006), and the Italian experience of integrated territorial programmes (*PIT*); it seems that *cross-sectoral collaboration* in planning and strategy development often stimulates innovation. Bringing together different strategic interests can enable change both in how individual businesses operate, and in how they work together to generate new, positive economic, social and environmental outcomes (Dwyer *et al.*, 2012; Mantino, 2011). The key to effective innovation here appears to be the capacity to pool knowledge from different spheres of activity, and to use this knowledge to identify new linkages and new ways to achieve joint goals through collaboration. The production of social capital can be an important result of bringing people together, and this in turn generates more tangible results in the form of integrated projects with multiple benefits (ibid). As Dargan and Shucksmith note, in a paper discussing LEADER experiences of innovation (2008):

> In reflecting on the practical experience of rural development, innovation has been understood in terms of social innovation (to encourage local linkage and collective learning cultures) and cultural innovation (to improve the rural milieu) rather than in the sense of science policy and technological innovation which dominates national policy discourses.

Collaboration up and down the food chain can also bring valuable innovation to agriculture and rural development. There is positive experience in this respect from *'filière'* initiatives in Germany, France and Italy where public agencies have either directly engaged in, or have encouraged with funding, the formation of food supply chain partnerships which bring producers, processors, distributors and/or retailers together to plan and implement new systems, creating new products or new ways of working which increase cost-effectiveness and competitive success (Morgan *et al.*, 2006; Dwyer *et al.*, 2004). Support for both vertical and horizontal collaboration can be effective, in this context. Experience with integrated planning and programme delivery in the southern regions of Italy has shown how such policy frameworks and funding can foster innovation, when established over a sustained period of time (Dwyer *et al.*, 2012).

Challenges and barriers to effective KE, and the role of policy

Knowledge exchange through training and advice to farmers is a long-established element in EU farm policy. As well as promoting improved productivity, using advice to raise awareness about the natural environment and offering training in environmental protection can be important ways to encourage more sustainable resource management (Dwyer *et al.*, 2007; Mills *et al.*, 2009; Lobley and Bullock, 2013). But reviewing experience with training and advisory provision to farmers across the EU, it is clear that not all actions have been successful, in this regard (ADE, 2009). Dwyer *et al.* (2007) found that farmers' willingness and capacity to change are critical to ensure that they can make use of new knowledge but too often, training and advisory support to farms is not designed and delivered in ways which will foster a willingness to change.

In some cases, training and advice are ineffective because they are insensitive to the real barriers to change faced by the farmers at whom they are directed (Dwyer *et al.*,2007; Jacobson *et al.*, 2003). So, for example, a course or an advisory booklet about reducing diffuse pollution might promote the principle of matching input applications to crop needs through the growing season, but if few farmers know how to get their soils tested or know the nutrient content of the manures that they spread, they cannot implement this good practice effectively. Courses for dairy farmers which aim to increase their production efficiency through closer monitoring, analysis and management, may fail because factors such as indebtedness to the banks, or lack of time for planning and reflection, effectively 'lock' producers into their high-input, high-output systems.

A significant body of research (reviewed in Dwyer *et al.*, 2007) has concluded that effective training or advice should be designed to emphasise its tangible benefits for beneficiaries – whether these be savings in costs or time, or reduced risks of falling foul of regulatory requirements (e.g. Posthumus and Morris, 2010). And good trainers spend time and effort to understand the situations of target groups, to ensure that their courses and events take these into account and that their advice can be readily acted upon, once received. This may require courses to be hosted on farms themselves, in the evenings or at less busy times of the day, to make it easy for people to attend. The language needs to be direct and accessible, with frequent recourse to the direct demonstration of efficacy, wherever possible. Sometimes it can help if trainers are themselves farmers, fostering 'trust in the messenger' in order to encourage reception of the message (Dwyer *et al.*, 2007).Such kinds of well-targeted training can raise awareness and understanding of environmental and other challenges, as well as helping to provide farmers and other rural actors with the confidence and entrepreneurial skills to take action to address these challenges (Mills *et al.*, 2013). It can take many forms: from the simplest interactions such as visits for groups of farmers to farms in other regions (e.g. within a LEADER exchange project: Dwyer et al, 2010a), to more sustained and complex courses in rural business management (e.g. BUS in Germany: Langosch, 2011) which may take several years to complete.

In summary, drawing upon evidence from research, policy can encourage the kinds of innovation needed for agriculture and rural development particularly through:

- funding and designing more appropriate types of knowledge exchange, training and advice for farmers and other rural actors, to raise awareness and increase their capacity to act;
- funding new partnerships, in communities of learning, between research and practice;
- supporting collaboration to promote innovation in production, processing and marketing and consumer education – bringing together different sectors and groups with complementary knowledge and skills, and linking producers to others in the supply chain.

3. Assessing existing Pillar 2 policies for agricultural transformation

Pillar 2 as a useful toolkit – considering the measures

In respect of the Common Agricultural Policy, the most directly relevant policy instruments for promoting innovation are found within the Second Pillar for rural devel-

opment. Reviewing experience to date with these policies, Dwyer *et al.* (2012) concluded that the goals and instruments of the European Agricultural Fund for Rural Development (EAFRD) have proven ability to promote innovation and transformation in agriculture, when used well at the local level. Giving evidence to a UK Parliamentary inquiry, the European Commission noted that at least 15 measures within the EAFRD are relevant to the process of fostering innovation (House of Lords, 2011). Here, the main measures of relevance are discussed briefly.

Pillar 2 aids for training both within and beyond the farm gate have apparently been effective, along with aids for adding value and increasing consumer awareness, which have been used to respond and to help increase the demand for products from more sustainable farming systems – for instance, in the case of organic action plans in Germany, wine production in Spain, and initiatives to promote regional quality products, in Poland (all cited in Dwyer *et al.*, 2012).

Aids for farm investment and agricultural infrastructure have, in some cases, been used to help shift farming practices away from more damaging or wasteful forms of production and towards greater resource efficiency – for example, in the management of water and soils, or in climate change mitigation strategies. In south-west England, these measures have been offered along with training and demonstration aids within 'soils for profit' and 'South West Agricultural Resource Management' projects, which help farmers to understand and implement actions to improve soil structure and reduce erosion and leaching, interacting closely with scientists (Natural England, 2013). In Ireland, investment aids for livestock farms to improve manure processing facilities are seen as an important ingredient in climate change mitigation, which represents an element of innovation in the Irish Rural Development Programme (RDP) (Holman, 2010).

In some cases, Agri-Environment Measures (AEM) have been used to facilitate change in farming systems towards more resilient styles of production, better able to cope with future climate-related stress (EC, 2009). Examples of innovation with AEM include co-operative approaches which can deliver landscape-scale impacts. In the Netherlands, local organisations of farmers and non-farmers (technical and environmental specialists, local community interests) work in close collaboration with each other and local, regional and national agencies to integrate nature management into farming practices. Introduced in 1992, there are over 100 cooperatives and by 2004 these embraced ten per cent of all farmers and 40 per cent of agricultural land (Franks and McGloin, 2007). Also, innovation is seen in the piloting of outcome-based approaches to AEM, for example in Germany, with meadow preservation schemes in Baden-Württemberg and Lower Saxony; and collective approaches on common land, where individual farm-level agreements are difficult to secure (Jones, 2011).

Among the measures in Axis 3, funding for village renewal, basic services, and tourism and craft development have been used to help stimulate new patterns of rural development which offer a more diverse and robust mix of income sources in territories where agriculture is in decline. In some cases, this has been a characteristic of LEADER actions (particularly under LEADER II and LEADER + programmes, 1994-2006); whilst in others it has been stimulated through other local institutions (Knickel and Krőger, 2006; Shucksmith, 2009).

The innovation potential of packages of measures, designed to suit the territory

Analysis of existing RDPs in respect of single measures or axes risks ignoring one of the most significant instances of good practice in supporting innovation. This is the approach of combining measures within or between axes, into packages designed to stimulate change in a co-ordinated way, in micro-regions and/or particular sub-sectors of agriculture. Territorial approaches were among the first experiments in integrated project design and implementation using different measures or funds. Many offer a combination of measures in order to promote local areas as attractive venues for tourists, with a range of high-quality providers of food products, places to stay and to eat, and leisure opportunities. Because these require many years to develop as a fully integrated "offer", most date from earlier programme periods (Knickel *et al.*, 2009; Von Münchhausen *et al.*, 2010). But several current RDPs (2007-2013) have been innovative in adopting a territorial approach, or strengthening the importance of this approach (e.g. Portugal, Ireland, some Italian and French regions). There is growing interest in designing and experimenting with territorial approaches in RDPs, in different MS and regions. These approaches frequently involve protected areas, regional and national parks, as they already pursue environmental, economic and social goals with a local strategy (Mantino, 2011).

Persistent weaknesses in practice

Despite these positive examples, the achievements of Pillar 2 programmes are variable across the EU and research evidence suggests that conservative, or narrow and piecemeal application of the measures in many countries has not achieved any significant transformation in agriculture or rural areas. This has been a particular criticism of new Member States (Erjavec, 2012), but it may also apply within the EU-15 (Dwyer *et al.*, 2008, 2010b, 2010c). Studies conclude that the effective use of Pillar 2 relies heavily upon good policy design and delivery, which should take into account local specificities and develop a coherent vision of the way forward for a territory or a sector, before aids are disbursed. It is also important to apply an approach which looks at the menu of RD measures as a bundle of complementary tools that often need to be applied together, in order to achieve desired outcomes (Dwyer *et al.*, 2012).

To support innovation it is important for policy to enable risk-taking, both by individual beneficiaries and within the policy administration, in respect of the facilitation, appraisal and approval of projects. In many parts of Europe today, these conditions do not apply. Measures are specified largely by reference to standard conditions; calls are issued separately for different measures at different times; there is little accompanying advice or technical guidance on how to put together strong proposals for funding; and the selection of successful applications is made more on the basis of simple administrative criteria (e.g. deadline achieved, application completed correctly?) or lowest-risk funding criteria (e.g. match funding secured? Business plan professionally prepared? Partnerships for collaborative bids largely within/heavily controlled by the public sector?), than on strategic consideration of the real or lasting value of likely outcomes (Mantino *et al.*, 2010; Dwyer *et al.*, 2010a). These styles of operation inevitably reduce the realised achievements of programmes. There is evidence that the way in which EU financial controls and audit are interpreted at the

level of Managing Authorities frequently works against support for innovation, as fear of disallowance or claw-back of funds encourages risk-averse behaviour which is unwilling to invest in previously untried and untested project ideas, however well their cases may be prepared (e.g. Dwyer et al, 2008; Maye et al, 2010; Dwyer et al, 2011).

Considering the potential of Pillar 2 to promote more entrepreneurial investment in innovative business ideas and novel approaches to resource efficiency, evidence suggests that training and advisory measures are under-utilised in favour of spending on investments and annual compensatory aids to beneficiaries (Dwyer *et al.*, 2012). There are a variety of reasons for this, including: reluctance and/or lack of appreciation of the value of training by farmers; as well as institutional unwillingness (in managing authorities, paying agencies and delivery bodies) to invest in advice and training due to perceived difficulties in demonstrating impacts, and in effective monitoring and control; as well as a lack of appropriate targeting and promotion. A greater emphasis at the EU level upon the importance of using information, promotion, demonstration and increased learning by exchange and networking, to encourage more positive experiences, may be necessary.

The absence of effective national public-private infrastructure and investment for innovation and knowledge transfer in rural and land-based sectors, which has further deteriorated since the beginning of the financial and economic crisis, is an important factor in the relative lack of innovation in EU rural development. In the new Member States, knowledge formation at the national level is weak. Although public extension services exist, they are reportedly more engaged in assisting farmers to access public funds than in contributing to learning and new ideas (Erjavec, 2012). Summarising the performance of the Farm Advisory System required under Pillar 1 of the CAP, Hermans *et al.* (2010) note that: 'A problem with the implementation of the FAS in many countries has been that the FAS was seen as a control mechanism to force farmers into compliance. The effectiveness of the FAS was therefore still limited with only a few farmers seeking advice'.

To a large extent, therefore, it can be concluded that poor performance of RDPs in respect of innovation for agricultural and rural transformation results from inadequate capacity, resourcing or attention being developed among those charged with programme design or delivery in the MS. However, there are ways in which the EU can develop its overarching policy framework and its supporting guidance, to help improve the situation. Direct policy incentives could be used to encourage innovation: for instance, offering earlier or more generous release of the performance reserve for RD funding where MS can provide evidence of policies enabling innovation and transformation. Higher rates of co-financing might stimulate preferential use of key measures in this role, and stronger promotion of their benefits through the EU RD network.

4. Assessing the proposed new EAFRD for 2014-2020

The Commission's draft regulations for the EAFRD beyond 2013 contain several important changes which should be positive, in fostering innovation and transformation in agriculture and rural areas. There is a clear strengthening of the elements within RDPs which promote more strategic and co-ordinated use of measures to reflect local circumstances, and match local opportunities, more effectively than before. Key changes to pillar 2 can be summarised as follows.

- The former four-axis structure and the minimum spending thresholds per axis have been removed, in favour of a structure focused around six strategic goals. The scope and purpose of all existing measures are retained but consolidated into fewer, more flexible instruments, and there is an obligation upon MS to use whichever measures they choose, to deliver against the strategic goals (i.e. no pre-determined link between measures and goals). The new goals are: knowledge transfer; improved competitiveness; innovation in products and processing; protection of biodiversity and landscapes; more efficient and sustainable use of water, energy and low-carbon technologies; and tackling rural poverty and social exclusion through local economic development and improved rural viability. This more strategic and flexible framework should increase the opportunities to combine instruments at a local level in order to create an effective climate for innovation.
- There is explicit support for rural development programmes made up of a number of focused 'sub-programmes', tackling specific themes or challenges which may qualify for higher co-funding rates from the EAFRD. This could encourage more filière or territorially-integrated actions.
- A new approach is added for 'European Innovation Partnerships' (EIP), which build links between research and land-based sectors, to tackle rural challenges. In addition, a new measure for collaboration significantly increases the types of collective and partnership-based planning and delivery that can be assisted. For example, it can involve partnerships between farmers, local authorities and environmental experts to manage agri-environment-climate actions; and partnerships to develop added-value or innovative products and supply arrangements. These changes should strengthen the potential to foster effective knowledge exchange and build social capital in ways that stimulate innovation.
- There is a reinvigorated approach to LEADER which reinstates its relative independence from the wider measures' architecture, requires all EAFRD programmes to spend at least 5% of their total funds on it and promotes funding from all EU funds, as appropriate. There are also new measures to promote capacity-building in LEADER-type delivery approaches. Both these changes appear to liberate the LEADER approach from the heavy bureaucracy which has held back its ability to innovate in the 2007-13 period (Strahl *et al.*, 2010; Maye *et al.*, 2010).

The basic architecture of the proposed rural development policy is more similar to that which has formerly characterised ERDF and ESF funding programmes, in giving more choice to MS about which measures they wish to use, in which combinations, and for which aims. All these changes should facilitate innovation in the choice of actions at local level, compared to the current situation.

Looking in more detail at the new measures and considering the points made about innovation in the first section of this paper, the six strategic objectives for RD chime well with needs and opportunities identified as relevant to innovation. Three are particularly pertinent.

1. *Fostering knowledge transfer in agriculture and forestry*, focused on promoting human capital and smart networking; fostering innovation and the knowledge base; and strengthening links between the sectors and research and development. Actions under

this priority include 'cooperation between the agriculture, food and forestry sectors and other actors and the creation of clusters and networks'; 'the establishment and use of advisory services….[and] enabling farmers, forest holders and SMEs to access advisory services in order to improve economic and environmental performance'; and 'strengthening the links between agriculture and forestry and research and innovation through setting up operation groups….[as] part of the European Innovation Partnership for agricultural productivity and sustainability' (SWD (2012) 61final, p. 4) (European Commission, 2012).This priority could be used to build upon initiatives that have already developed in several MS under the current programming period, to help to increase the skills and knowledge of farmers in respect of more efficient water use, soil conservation, protection of water quality and increased productivity. Knowledge transfer and networking can also be a key part of securing shorter supply chains which offer greater returns to the primary producer.

2. *Enhancing competitiveness of all types of agriculture and enhancing farm viability*, with a focus on restructuring for farms facing major structural problems, with a low degree of market participation, and farms in need of agricultural diversification; also facilitating generational renewal in the sector. The main measures that might enable innovation in pursuit of this goal are different kinds of investment aid (private or public, but mainly productive). Encouraging farm business start-ups among the younger generation can enable new or more diverse types of farming.
3. *Promoting food chain organisation and risk management in agriculture*: integrating primary producers into the food chain through quality schemes, promotion in local markets and short supply chains, producer groups and inter-sectoral organisations. There are important opportunities for using this priority to innovate, making closer links with major food users in hotels and catering, as well as with processors and food retailers in order to identify the best opportunities. The types of investments that might be promoted could include equipment and collective structures to enhance or support supply chains which preserve product quality, guarantee origin and authenticity and improve traceability.

Overall, therefore, the new EAFRD framework appears more attuned to the circumstances in which innovation is likely to occur than its predecessor, and it contains new instruments and enhanced flexibility which should enable novel RD approaches, where local conditions favour this. However, a good framework on its own is insufficient to ensure transformative and innovatory rural development at the local level; this depends upon creative and enthusiastic engagement by Managing Authorities with the innovation agenda. In respect of mechanisms to explicitly require a priority for *innovative* projects and initiatives within programmes, the draft regulation offers relatively little new. In that sense, it seems likely that path-dependency, the audit culture and innate conservatism within Managing Authorities will act to reduce innovation on the ground in response to rural development funding. To coin a metaphor – an effective plumber needs more than a good toolkit, in order to perform effectively. Where Pillar 2 fails to stimulate innovation, it is perhaps more because of a lack of skill and creativity in programme design and delivery, than of insufficiency in the EAFRD.

5. The new CAP as a whole – under-playing the value of Pillar 2?

Assessing the proposed CAP reform package as a whole, it appears insufficiently oriented towards achieving agricultural and rural transformation through innovation, because of the significant emphasis upon retaining the majority of resources in Pillar 1 decoupled farm payments, and in redistributing these aids between territories with no explicit consideration of their likely impact upon farming and wider rural development need. The CAP pillar 1 instruments are discussed elsewhere in this edition (see Matthews, 2013), so will not be analysed further, here. Nonetheless, given the evident shift in the reforms towards a more holistic vision for both pillars of CAP, in which their roles have become less distinct and it is only really their operational characteristics which separate them, one can ask why it is felt necessary to retain the existing and significant resource (im)balance between pillars, rather than shifting more towards pillar 2 measures which have greater potential for promoting innovation and transformation.

At present, whilst several new Member States have funding allocations for Pillar 2 programmes which are equal to, or larger than, those for Pillar 1, most EU-15 countries spend less than 30% of their total EU CAP funds on rural development under Pillar 2. For as long as this imbalance continues, it is likely to result in an inadequate emphasis upon innovation, within the CAP (Dwyer *et al.*, 2012). To improve the proposals it would be advisable to strengthen pillar, ensuring it receives a higher proportion of total CAP funds overall but particularly within the EU-15 Member States. It would also be beneficial for the policy to adopt a balanced set of objective criteria reflecting the economic, social and environmental goals of the CAP, to be used to determine budgetary allocations between Member States.

6. A need for innovation and transformation in policy itself

To increase the likelihood of Pillar 2 stimulating greater innovation in rural development, there would be value in promoting more effective and imaginative design and delivery of Rural Development Programmes, in all the MS. This could be achieved through enhanced networking; more incentives for innovation beyond the single instrument of the European Innovation Partnership; and renewed institutional and capacity-building efforts to address widespread risk aversion among public administrations, which prevents them from using these programmes in an enabling way. This final point deserves more detailed consideration.

Beyond the assessment of how well policy supports innovation or transformation 'on the ground', it is important to recognise that some of the greatest obstacles to CAP performance in respect of innovation lie within the policy institutions themselves.

Too often, policy makers seem to assume that if they want something to happen in rural areas, they just have to allocate some funding to that particular goal and issue a call for applications. Beneficiaries will come forward, money will be spent and things will change. But a catalogue of evaluation experience from the past 20 years in Europe shows clearly that this is frequently an insufficient response. It can lead to significant wasted resources, as well as undesirable outcomes (see Prazan *et al.*, 2010; Kirwan and Maye, 2010, Dwyer *et al.*, 2010a). RDP success can be undermined by a panoply of reasons, not

least including adverse effects and drivers which may be created or exacerbated by interactions with other parts of the policy framework (e.g. regional funding – see Mantino *et al.*, 2010). Sometimes, instruments work in perverse ways. Evaluation of risk management measures as policy tools, for example, suggests that they may have negative impacts upon innovation because they discourage farmers from feeling a need to do anything differently (effectively, the risk management tool encourages complacency, which can in turn increase vulnerability – see Mantino's case study in Dwyer *et al.*, 2012). Some critics of Pillar 1 payments claim that they have a similar 'dampening' effect upon the incentive to innovate in agricultural production or sustainability (e.g. Swinbank, 2012, Group of Agricultural Economists, 2009). A lack of institutional capability is also a widespread issue: as Seyfang and Smith (2007) note: 'a further challenge is policy-makers' risk aversion. Innovation is an experimental process, and an important aspect of this is openness to learning from failure. The policy culture is insufficiently mature to identify this as a positive process.'

Innovation in policy is a significant need for the future, across rural Europe. As future governments must try harder to ensure that they use scarce resources to good effect, more emphasis should be placed on effective design and delivery of policy by skilled and experienced policy makers, so programmes can achieve more, more sustainably and to a higher standard, despite their likely reduced scale. This is a significant challenge – in effect, there is a need to improve policies' cost-effectiveness in a context where the policy agenda is significantly more complex. Seeking to develop new approaches at different stages within the policy cycle (Bassi *et al.*, 2012) may be a critical element in achieving rural sustainability and resilience.

The many stages of the policy cycle offer scope for innovation – at initial conception, in design, in delivery, and in monitoring and evaluation, so that we can more effectively learn from and improve policy performance at all levels, from the EU to the local. Just as change on the ground is often best fostered by 'communities of learning'; the same is true in respect of good policy-making. We need to become smarter at making policy which can be tailored to local situations, open to recognising and working with situations of risk, and meeting global needs without costing a great deal more in bureaucracy and administration.

The EU networking approach, formalised within the ENRD and the EENRD at present, and soon to be extended with the EIP network, marks one attempt to build institutional learning processes into CAP policy-making at the level of practitioners and delivery agents. At the other end of the scale, the CMEF was the Commission's instrument intended to require a more rigorous and reflective process of policy making and enhancement at national and EU levels. However, neither of these has yet devoted a great deal of time or effort to understanding policy *processes* and considering how to improve cost-effectiveness. The potential value of so doing was particularly emphasised in the RuDI (Rural Development Impacts) study (Schiller *et al.*, 2010).

Looking for parallels elsewhere, recent developments within the corporate sector seek to address challenges of improved resource allocation and process-management, under situations of increasing complexity in customer demand. In the business literature on organisational change and transformation within industrial processes, BPR (Business Process Re-engineering – USGAO, 1997), and 'Lean systems' methods claim to offer ways of reorganising and improving the efficiency and effectiveness of complex management tasks. Whilst each approach has specific detailed methods, their common underlying theoretical

perspective is interesting, because it echoes points made earlier in this paper, in respect of rural development policy.

BPR approaches any 'business process' with the same analytical and diagnostic technique, in order to build an understanding of its pros, cons and scope for improvement. This essentially means talking to the different people involved in the 'chain' of delivery, in order to understand how the process is understood and dealt with, and to seek evidence and opinions about the scope to 'do things differently and better'. Once all views are collected, the analyst builds a series of process diagrams and considers how elements might be reconfigured or recombined in ways which remove or minimise the problems identified and offer potential to enhance performance. Not only does the analysis generate ideas for different delivery models; but the task of speaking to all the actors and engaging them in considering this issue has a knock-on benefit of clarifying and improving corporate commitment among staff.

Lean Systems has gradually replaced BPR as the dominant 'new approach' to seeking transformation and beneficial change in corporate organisational management. It shares the BPR interest in reviewing business operations from the varied perspectives of all those, from senior to very junior employees, engaged in the process. But its style of operation and its outcomes appear more radical than those of BPR, relying more on empowerment and ownership, in the analysis and redesign stages. A recent review of the application of 'lean systems' approaches in public policy in the UK, where it has been used by local authorities seeking increased efficiencies in public service delivery, concluded the following.

> By redesigning their systems, the authorities were able to realise that the boundaries of the systems which they were operating stretched further than the domain in which their service had control. Each case study had examples where other agencies had received benefits from the improvements from redesign. Cumulatively, this evidence suggests that the benefits that can be achieved from systems thinking interventions can be even greater than expected when seen at the level of higher system interactions. (Zokaie *et al.*, 2010)

Interestingly, the report identified one specific benefit of this approach as its abiIity to recognise, and incorporate within the analysis, impacts and interactions 'beyond the domain' of the main focus of review. It is a classic weakness of much current policy evaluation that it tends only to focus upon specific policy instruments or initiatives, rather than take account of 'beyond-domain' influences upon local-level performance (see Schiller *et al.*, 2010, and Dwyer *et al.*, 2010a).

Both these models could offer useful applications to policy-makers working in agriculture and rural development. It is an area which is ripe for experiments, in the sense of 'action research', bringing together research experts with policy practitioners and strategists. Placing new emphasis upon research and development in cost-effective rural policy design and implementation could easily be justified by the scale of existing inefficiencies and inertia in CAP policy, and thus the potential gains from more effective organisation and management, in future.

7. Conclusions

Rural development policy under the CAP must seek to encourage significant innovation and transformation of Europe's agriculture and rural areas in order to meet future

challenges. Pillar 2 policies already include elements which can be used to do this; but the balance of evidence suggests that such use is not widespread, to date. Achievements are held back by barriers at the level of individual businesses and in respect of awareness, understanding and the confidence to act. At the same time, weaknesses in policy design and delivery frequently constrain the potential of RDPs to tackle these barriers effectively.

The proposed new Pillar 2 framework incorporates a number of improvements in respect of promoting innovation and transformation; with more flexible and integrated approaches and a new emphasis upon some of the key elements, such as knowledge exchange and collaboration. However, a better toolkit does not on its own guarantee success. Persistent weaknesses in the implementation and design of policies will limit their ability to promote innovation in practice. More emphasis is therefore needed to improve the capacity and capability of RDP actors and institutions in effective policy formulation and delivery, if the framework is to be used to good effect. This requires additional efforts by the Commission, also within the various EU networks for exchange of good practice and collaborative learning, and via the wise deployment of technical assistance funding within the Member States and regions.

Scientific research can also play a valuable role, here. This paper has particularly highlighted the potential for 'new communities of learning' where scientific evaluators work with policy makers to better understand organisational and institutional processes within policy, perhaps borrowing ideas from the commercial world, to enhance the enabling power of Pillar 2.

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