Advisory Programme

Knowledge Transfer Conference 2013
'Future of Farm Advisory Services, Delivering Innovative Systems'

Astra Hall, Student Centre, University College Dublin, Belfield, Dublin 4. 12, 13 & 14 June 2013

teagasc
Agriculture and Food Development Authority

European Commission

UCD DUBLIN


Advice
Management

Knowledge Transfer Conference 2013 'Future of Farm Advisory Services, Delivering Innovative Systems'

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University College Dublin, Belfield,

Dublin 4.

Contents of Proceedings

Purpose

This conference will enable discussions among policy makers, advisory services managers and other stakeholders on the effectiveness of advisory services in providing innovation support to farmers through the measures proposed in CAP 2013-2020.

Proceedings compiled by

Paul Maher, Dr. Kevin Heanue, Liz O'Sullivan, and Andrew Deane

Teagasc

Oak Park

Carlow

www.teagasc.ie

Foreword

There is renewed focus on the provision of effective supports for innovation in agriculture, driven by increased global demand for food which is produced in a resource efficient and sustainable manner. Agriculture in the developed world has economic, social and ecological dimensions that are independent of market forces and these dimensions are supported by national and regional policies. Within the EU, it is recognised that supporting agriculture through market measures, supply side measures and direct payments all contribute to the viability of production systems and the sustainability of the industry. There is recognition that European agriculture is losing competitiveness and that there is a widening gap in the adoption of new research knowledge, systems innovation and improvements in best and general practice. The ongoing reform of the CAP in Europe shifts economic supports from a production-based systems approach to a public goods approach. This will require improved production efficiency, especially on many economically marginal farms, in the absence of a major market adjustment. This, combined with increased global demand for food and energy, brings the role of agricultural research and that of advisory services centre stage.

In order to improve innovation support systems for farmers and increase the adoption of new and relevant technologies on farms, the EU has proposed the expansion of the role of the Farm Advisory System (FAS) and the establishment of a European Innovation Partnership (EIP) for 'Agriculture Productivity and Sustainability'. The purpose of this conference is to create an opportunity for some "slow thinking" on how farm advisory services and agricultural consultants could contribute to innovation within the framework of 'Operational Groups' and the EIP networks.

The first two sessions will provide an opportunity for analysis and discussion of current activities and future challenges by providing some context and background information and a global perspective. Session 3 will explain the latest position on the EIP proposal. Session 4 will allow time for teasing out ideas concerning areas and activities that could have greatest impact in terms of increased knowledge uptake and use on farms and the degree to which these aims could benefit from international networks. How such networks might improve on existing systems will be a primary focus of discussions. The outputs and conclusions from these deliberations will be assembled in Session 5, and will assist in identifying key areas of common interest where collaboration and joint efforts can achieve the most effective results.

The tours on the final day will allow participants to travel outside Dublin and see some relevant advisory and applied research activities, which will be of interest to advisers and managers of advisory services.

Dr Tom Kelly

Director of Knowledge Transfer, Teagasc

Key Note Speakers

Professor Gerry Boyle, Director, Teagasc

Professor Gerry Boyle was appointed Director of Teagasc – the Agriculture and Food Development Authority for Ireland – on 1st October 2007. Teagasc conducts research on agriculture and food; provides extension services to Irish agriculture; and is the sole provider of vocational education programmes to the sector and is also a provider of courses in higher education. Gerry is Emeritus Professor of Economics at the National University of Ireland (NUI), Maynooth and former Head of its Economic Department. He also holds an Adjunct Professorship at the University of Missouri, Columbia. He was previously a Senior Research Officer with the Agricultural Institute and an Economist with the Central Bank of Ireland. From 1995-1997 he served as Economic Adviser to the Taoiseach (Irish Prime Minister), Mr John Bruton T.D.. Prior to his position at Teagasc he was a Senior Associate with Farrell Grant Sparks Consulting and a Senior International Consultant, specialising in agricultural policy with the World Bank on a number of their projects in Eastern Europe and Central Asia including Belarus, Moldova, Russia and Tajikistan. Professor Boyle is a past President of the Irish Economic Association and of the Agricultural Economics Society of Ireland. He has served as Editor of the Economic and Social Review, the European Review of Agricultural Economics and the Irish Journal of Agricultural Economics and Rural Sociology. Professor Boyle has published an extensive range of papers and reports on public policy issues in national and EU media. He was recently elected a Member of the Royal Irish Academy (M.R.I.A.).

Ms. Inge Van Oost, EU Commission, DG Agriculture and Rural Development

Inge Van Oost is policy officer at the European Commission, Directorate General Agriculture and Rural Development (DG AGRI), and involved in the setting up of the European Innovation Partnership "Agricultural Productivity and Sustainability". She is a member of the DG AGRI Taskforce "Research and Innovation" which is shaping DG AGRI's new research and innovation approach, forming part of the European Research Policy and the future 2014-2020 Horizon 2020 work programmes. In her former post at the Commission she was policy officer in the Direct Support Unit and the Cross Compliance Unit, responsible for the Farm Advisory System and links to Rural Development policy. Before working at the Commission she was coordinator of the demonstration project programme at the Directorate-General for Agriculture and Horticulture of the Ministry of the Flemish Region. There she was also involved in drafting rural development measures and designing the farm advisory system was a member of the selection committee and evaluator of many agricultural research projects. In the former federal Belgian Administration for Agriculture she served the Secretariat General as coordinator of the Horticultural chain, dealing with chain management, quality control, traceability and food safety, plant protection products and residues, evaluation of sustainable production methods, related indicators and certification schemes, and communication with consumers. Before becoming administrator she worked as a farm adviser, then as the coordinator of a team of agricultural advisers. Being based in an applied research institute the team was advising farmers as well as designing and implementing experimentation and demonstration projects.

Dr. Hugh Brady, President, UCD

Dr Hugh Brady was appointed President of UCD in January 2004. Born in August 1959, he was educated at UCD where he was awarded degrees in Medicine (1982) and Science (1984). He was subsequently awarded PhD and MD degrees for research in renal physiology and molecular medicine. Prior to returning to UCD in 1996 as Professor of Medicine and Therapeutics, he spent nine years at Harvard University, most recently as Associate Professor of Medicine. Since taking up his position as President, Hugh Brady has overseen and implemented a multipronged institutional change programme which included major curriculum reform at undergraduate and graduate levels, a reorganisation of academic structures, a significant increase in research income and outputs, a major fundraising and capital development programme, expansion of UCD's international footprint and a major jump in UCD's position in the THES university rankings. Dr Brady is currently Chairman of the Universities 21 network of global research intensive universities.

Mr. Mike Mackenzie, EU Commission, DG Agriculture and Rural Development

Mike Mackenzie came to Brussels in 2003 as a journalist covering EU agricultural policy for the international trade publication Agra Europe, having previously reported from the UK on agricultural commodities. In 2005 he became speech-writer to Mariann Fischer Boel, the EU Agriculture Commissioner at the time, and remained in this post until the end of her mandate in 2010. Since then he has worked in DG AGRI in the unit dealing with the fundamental principles and structure of the EU's rural development policy. His particular responsibilities include the role of this policy in supporting care for the environment, stimulating technological development and encouraging various forms of "collective activity" (including the development of short supply chains and local markets).

Mr. Emmanuel Petel, EU Commission, DG Agriculture and Rural Development

Since 2009, Emmanuel Petel has worked as policy officer in the DG AGRI unit responsible for "cross-compliance" where he works on the environmental standards defined by member states as "good agricultural and environmental conditions". This unit has to ensure the correct implementation of the Farm Advisory System (FAS) by Member States. During the last couple of years, Mr Petel's unit collaborated with other units on the proposals for the "greening of the CAP" post 2013. Before 2009, Mr Petel was involved in milk sector development and milk quota management in DG AGRI for five years. Previously he worked in the dairy sector for the Ministry of Agriculture in France where he had direct contact with farmers and dairy plants.

Dr. Tom Kelly, Director of Knowledge Transfer, Teagasc

Dr Tom Kelly is Director of Knowledge Transfer in Teagasc; he manages the Agricultural Education and Farm Advisory Services in Teagasc. Teagasc advisory programmes are contracted to service 40,000 farmers and the education programme trains equivalent to 3,500 full time students. Teagasc is an independent state agency with responsibility for the development of Agriculture and Food in Ireland. Tom has a primary degree in Agricultural Science from UCD and a research-based Masters and PhD from the National University of Ireland, University College Dublin. He also completed a corporate MBA at the University of Limerick. Tom has many years of experience in the provision of education and advisory programmes and has a specific interest in improving the effectiveness of Knowledge Transfer

in Agriculture, in particular the development of peer-to-peer learning networks and joint programmes with industry stakeholders. Tom was brought up on a family-run dairy farm in Kilkenny and now lives with his wife Ann who is a farmer with Beef and Tillage enterprises. They have five children.

Mr. Michael Brady, Brady Group Agricultural Consultants & Land Agents

Michael is a well established agricultural consultant and land agent based in Cork City. He qualified from UCD in 1987 with a B.Agr.Sc. (hon) and commenced his career as a Dairy Husbandry Advisor with MAFF-ADAS UK in 1987. He returned to Ireland in 1989 to work with a private firm and established the Brady Group in 1995. He completed a Nuffield Scholarship in 2005 where he studied advisory services in France, Australia and New Zealand. Michael is passionate and enthusiastic in helping farmers achieve their goals. Michael was a judge in the National Dairy Farmer of the Year Competition in 2010 and he is the current President of the Agricultural Consultants Association of Ireland.

Mr. Peter Bolger, John Bolger &Co. Ltd.

From Gorey, Peter completed his secondary education in 1983 and having undertaken a course at Gurteen agricultural college worked as a dairy farm manager in Australia, New Zealand and Wicklow as well as a period as a consultant with Keenans. In 1997, he enrolled on the B.Agr.Sc. course in UCD and following graduation in 2001, he joined the Irish Farmers Journal where he was editor of the paper's property section and created the popular 'On and Off Farm' features page. In 2004, he returned to the family-owned agri-business company in Wexford, John Bolger Ltd. He is now managing director of the company. Peter is the current President of the Agricultural Science Association (ASA).

Mr. Sylvain Lhermitte, French Agricultural Chamber / ENRD

Sylvain Lhermitte is the permanent representative of French Agricultural Chambers in Brussels. He also currently serves as co-chairman of the Focus Group on Knowledge Transfer and Innovation of the European Network for Rural Development. He worked for the European Commission in DG Agriculture and Rural Development to contribute to the economic analysis and impact assessments of policy changes, particularly in the field of rural development and for the project "Scenar 2020 II: Update of scenario study on agriculture and the rural world".

Dr. Pascal Bergeret, French Ministry of Agriculture and Food.

Pascal Bergeret is an agricultural economist working in the French Ministry of Agriculture and Food, in Paris. He is head of the innovation department within the general directorate for education and research. He is involved in designing and implementing innovation policies for the Ministry in the field of primary agricultural production and the food industry. Current priorities are focused on facilitating the development of agro-ecological approaches in agriculture through various policy instruments. Enhancing the competitiveness of SMEs of the food industry through public investment in R&D is another priority. He is also involved in the supervision of French agricultural research organisations and represents the ministry on various national committees governing research. He is a member of the Standing Committee for Agricultural Research (SCAR) and participates in the SCAR working group. He is co-chair of the SCAR strategic working group on agricultural knowledge and innovation systems (AKIS). Pascal Bergeret was involved in international cooperation programmes for 20 years (1984 – 2005). He worked in

Nepal, Cameroon and Vietnam and was head of the agriculture and sustainable development division of GRET, a French NGO active in international development.

Dr. Krijn J. Poppe, Agricultural Economics Research Institute of Wageningen University

Krijn J. Poppe is a business economist working in the management of the Agricultural Economics Research Institute (LEI) of Wageningen University and Research Centre, located in The Hague, the Netherlands. He is involved in the management of several large, multidisciplinary research projects for the EU. Current research interests focus on agricultural policy issues, monitoring, competitiveness of the European food sector, the agricultural knowledge and innovation system, cooperatives and ICT. From 2009 to 2011 he worked part-time as Chief Science Officer at the Dutch Ministry of Economic Affairs, Agriculture and Innovation. In this role he co-chaired an EU collaborative working group on Agricultural Knowledge and Innovation Systems and edited its report. For 12 years (1999-2011) he was Secretary-General of the European Association of Agricultural Economists. He chairs the Steering Group of the journal EuroChoices, chairs the foundation eRNAC on research concerning cooperatives. He co-owns a small arable family farm.

Kevin Heanue, Rural Economy Development Programme, Teagasc

Dr. Kevin Heanue, an Economist specialising in innovation and technological change, works in Teagasc's Rural Economy and Development Programme. His research, publications, supervision of PhD students and participation in EU Framework Projects include the topics of rural enterprise support and development; agricultural innovation systems; innovation brokering, young farmer innovation, productivity in organic beef farming, agricultural technology and best practice adoption, knowledge transfer activities; capability building among farmers and innovation in low and medium technology enterprises. Kevin is the Teagasc nominee on the SCAR collaborative working group on Agricultural Knowledge and Innovation Systems (AKIS) and also on a LEADER company Board of Directors (FORUM Connemara Ltd). During his career, Kevin previously worked in the private sector as an economic consultant and strategist to Irish government departments, semi-state agencies, national representative organisations and private clients. He is actively involved in local rural development and is presently Chairman of Connemara West Plc, one of Ireland's longest established and most successful rural community development organisations.

Dr. Gordon Purvis, UCD

Gordon Purvis graduated from the School of Agriculture, University of Newcastle-Upon-Tyne in 1975, and received his PhD in applied entomology from the Faculty of Agriculture, UCD in 1979. After a period as a researcher in agro-ecology at the University of Nottingham School of Agriculture, he was appointed as a specialist in crop pest control at the ADAS Harpenden Laboratory in the UK, returning to join the teaching staff in UCD in 1987. His interests have progressively widened to include the role of biodiversity and beneficial populations within agro-ecosystems, and studies done in direct support of the development of agri-environmental policy at EU and National-levels. He has led major initiatives in biodiversity assessment within the Irish farmed landscape funded by the EPA and DAFM, and participated in EU-level projects seeking to develop novel cereal intercropping methods, and evaluate EU agri-environmental policy. He is now Head of the Environment & Sustainable Resource Management (ERSM) Section within the School of Agriculture & Food Science, including Agri-environmental Sciences, Horticulture and Forestry.

Professor Liam Downey, UCD

On graduating from University College Cork, Liam Downey spent the first ten years of his professional career in research on milk and dairy products. Having been awarded a Ph.D by Reading University, UK, he returned to a senior research appointment at the National Dairy Research Centre, at Moorepark, Fermoy, Co. Cork in Ireland in 1965. In recognition of the international contribution of his research, he was awarded a D.Sc. (Doctorate of Science) degree in 1979 for published research, by the National University of Ireland. Over a subsequent twenty-year period, he directed four national organisations: Chief Executive of the National Institute for Physical Planning and Construction Research from 1979 to 1982, Director of the National Agricultural Advisory and Training Organization from 1983 to 1988, National Director of the Bovine Disease Eradication Board from 1988 to 1992, Director of Teagasc (the Agriculture and Food Development Authority) from 1994 to 2001. In 2000, he was conferred with a Doctorate of Law Degree by the National University of Ireland, in recognition of his major contribution in many fields of science and technology, both nationally and internationally.

Dr. Bob Lawlor, NUI Maynooth

Bob Lawlor received his B.Sc. (Eng.) in Electrical/Electronic Engineering from the Dublin Institute of Technology in 1984 and joined the Advanced Development department of Sony Broadcast in Basingstoke, England following graduation. He spent over six years with Sony including two and a half years in Japan working on the Research and Development of professional video equipment. In 1991, he returned to Ireland and began lecturing in the Dublin Institute of Technology. He received his M.Sc. (Eng.) in 1994 from Trinity College Dublin and his PhD in 2000 from University College Dublin. Since 2001 he has been lecturing in the Department of Electronic Engineering at NUI Maynooth. Bob also completed a M.Sc. in applied e-learning in 2010; his current research interests are in the areas of digital audio signal processing and professional communication skills development.

Conference Programme

DAY 1: Wed. 12th June – P.M. (12:30 – 18:00)

From 12:30 Registration of participants and buffet lunch

Opening session: Welcome (14:00 – 14:30)

- Introduction by: *Prof. Gerry Boyle, Director, Teagasc*
- *Ms. Inge Van Oost, European Commission, DG Agriculture Rural Development*
- *Dr. Hugh Brady, University College Dublin*

Session 1: Current Farm Advisory/Extension Services (14:30 – 16:00)
Chair: Prof. Gerry Boyle, Director, Teagasc

Max. 15-20 minute presentations proceeding wider discussion:

- **Update on CAP 2014-2020: Support for Farm Advisory Services and Innovation**
  Mr. Mike Mackenzie, European Commission, DG Agriculture Rural Development
- **Update on CAP 2014-2020: New scope for the Farm Advisory System**
  Mr. Emmanuel Petel, European Commission, DG Agriculture Rural Development
- **Evolution of Irish Advisory/Extension Services to Meet Changing Needs**
  Dr. Tom Kelly, Teagasc; Mr. Michael Brady, ACA and Mr. Peter Bolger, ASA (joint paper by Teagasc, Agricultural Consultants' Association & Agricultural Science Association)
- **Lessons from Case Studies in Knowledge Transfer and Innovation**
  Mr. Sylvain Lhermitte, French Agricultural Chamber/ENRD

Discussion
Tea/Coffee Break (16:00 – 16:30)

Session 2: Future Farm Advisory/Extension Requirements (16:30 – 18:00)
***Chair: Mr. Hans-Joerg Lutzeyer (EU Commission, DG Research*)**

Max. 15-20 minute presentations proceeding wider discussion:

- **Agricultural Knowledge and Innovation System (AKIS)**
  Dr. Pascal Bergeret, French Ministry of Agriculture and Food; Dr. Krijn Poppe, LEI Wageningen University and Dr. Kevin Heanue, Teagasc
- **Knowledge Mobilisation for Sustainable and Competitive Agriculture**
  Dr. Gordon Purvis & Prof. Liam Downey, University College Dublin & Dr. Dr. Bob Lawlor, NUI Maynooth

Discussion

DAY 2: Thurs. 13th June – A.M. (8:45 for 9.00 start)

Session 3: Delivering Innovative Agricultural Systems
Chair: Mr. Al Grogan, DAFM Ireland

30 minute presentation followed by discussion:

- **Opportunities provided by the European Innovation Partnership "Agricultural Productivity and Sustainability" and its Operational Groups**
  Ms. Inge Van Oost, European Commission, DG Agriculture Rural Development

Discussion forum

Tea/Coffee break (10:15 – 10:30)

Session 4: Break-Out Groups to Consider the Future Directions of Farm Advisory Services
Chair: Dr. Gordon Purvis, University College Dublin

Organisation of the Break-Out Groups & Logistics

10.45 – 12:45 Break-out groups to consider potential areas for high impact 'operational groups' where collaborative innovation support could be provided within six key thematic areas. Each group will allocate time to sectors/topics (dairy, beef etc.) within these thematic areas, to identify the strengths and weaknesses of knowledge support and suggest 'Operational Groups' that could add something new to the improvement of agricultural productivity and sustainability by reducing the knowledge gap between research and practice. The groups are asked to focus on how these collaborations and partnerships of actors would achieve more through targeted Operational Groups.

Group 1: Crop Production – Improved innovation support for producers and growers through improved networks and how to incorporate and apply the benefits of new systems, practices and technologies in production systems.
Suggested topics, Cereals, Root crops, Proteins, Energy crops, Forestry, Horticulture

- ***Chair: Mr. David Cooper, Department of Environment, Food & Rural Affairs, (DEFRA) UK***
  Rapporteur: Mr. Paddy Browne, Teagasc

Group 2: Livestock Production – Identify high impact areas, input efficiency, reduced diseases and reduced environmental footprint of animal production systems, especially with respect to climate change
Suggested topics, Dairy, Beef, Sheep, Pig and Poultry,

- ***Chair: Dr. Pat Dillon, Teagasc***
  Rapporteur: Dr. Alan Fahey, UCD

Group 3: Agri-Environment – Potential for impact on the natural environment (habitats/biodiversity), cross compliance; water/soil protection, climate change. Suggested topics, Water, Carbon, Biodiversity, Conservation Areas.

- ***Chair: Mr. Michael Hamell , European Commission, DG Environment***
  Rapporteur: Mr. Pat Murphy, Teagasc

Group 4: Rural Development – Bigger issues around short supply chains, rural farm structures etc. research/advice/practice.
Suggested topics, Agri Tourism, Organic Farming, Direct Selling, Marketing groups.

- ***Chair: Mr. Marco Bertaglia, European Commission – Joint Research Centre***
  Rapporteur: Dr. Jim Kinsella, UCD

Group 5: Organisational Structures and Supports for Advisory Services. Organisational innovation in advisory services within member states: CAP support for advisory services and innovation, the Farm Advisory System, Public Private Partnership Networks, EUFRAS European Association of Public and Private Farm and Rural Advisory Services
Suggested topics, Public bodies, Private consultants, Collaborations, Associations and Ministries

- ***Chair: Prof. Phil Thomas, Former CEO, Scottish Agricultural College***
  Rapporteur: Mr. Michael Kuegler, EUFRAS

Group 6: Expertise Requirements – Support expertise and training and qualification needs for advisory service actors, and organisations
Suggested topics, Professional qualifications, ICT-based skills and tools, Facilitation skills, Training skills, Programming skills, evaluation of impact and cost benefit

- ***Chair: Prof. Ted Alter, Penn-State University, USA***
  Rapporteur: Mr. Paul Maher, Teagasc

Lunch Break 12:45 – 14.00

14.00 – 15:00 Return to break-out group discussions for organisation of outputs and preparation of reporting to the plenary

15:00 – 15:45 Poster Review of Research Projects – Recent and ongoing research and development projects in agricultural knowledge transfer

Tea/Coffee break

Session 5: Plenary Session (Panel Format Comprising Discussion Group Chairs)
Chair: Ms. Inge Van Oost, European Commission, DG Agriculture Rural Development

15.45 – 17:15 Feedback reporting from break-out groups and plenary discussion

17:15 – 17.30 Conclusions and final remarks (logistics for the field trip the following day)

DAY 3: Fri 14th June – A.M. (8:00 – 13:00) Morning field trip: buses departing from UCD at 8:00

Field Trip 1 – BETTER Beef farm and research herd

Visit to farm of Mr. Heinz Eggert, participant in the Teagasc / Irish Farmers Journal BETTER Beef Programme and member of beef discussion group followed by visit to the new Derrypatrick beef cow demonstration farm at the Teagasc Grange research centre

Field Trip 2 –Dairy "Greenfield" farm

Visit to the Greenfields Dairy Farm Kilkenny. 300 cow low cost dairy farm run by partnership. Discuss the Teagasc /Irish Farmers Journal /Glanbia Joint Industry Programme with advisers and farmers.

Field Trip 3 – BETTER Tillage farm

Visit to a Teagasc Tillage BETTER farm (Meath). Discuss the level of support given by adviser and roles of various information sources.

Field Trip 4 – Agri Catchments

Visit to mini catchment in Ballycanew, Wexford to discuss the ongoing intensive advisory support for improved environmental and farm management practices and the effects on water quality.

All buses aim to return to Dublin City / Airport for 13.00

Update on CAP 2014-2020: New scope for the Farm Advisory System (FAS)

Mr. Emmanuel Petel, EU Commission, DG Agriculture and Rural Development

Obligations around FAS were introduced in the reform of CAP in 2003. The purpose of FAS was to ensure that assistance could be provided to farmers to help them to meet the standards set out in EU legislation in relation to environment, animal and plant health issues. Currently Member states have to operate an advisory system offering advice to farmers, while farmers can participate in the system on a voluntary basis. The compulsory scope of FAS is limited to the requirements and rules under “cross compliance”.

The Commission has considered extending the FAS after 2014 as a relevant tool for providing continued advise to farmers, as the sustainable management of natural resources and climate action are among the main objectives of the future CAP, together with 'viable food production' and a 'balanced territorial development'. The Commission included in its legal proposal for the reform of the CAP, various elements that will contribute in a complementary and coherent way to the objective of a more sustainable use of natural resources and climate change mitigation and adaptation often referred to as the "greening of the CAP".

The Commission has proposed to give more legal visibility to FAS, by providing more specifications on the principles of the scheme and by significantly enlarging the scope. FAS can cover advisory bodies from the public and private sectors. Advisors shall be qualified and trained and a clear separation between advice and control shall be ensured. All farmers, irrespective of whether or not they receive support, can request advice from FAS.

The Commission has also proposed a significant enlargement of the scope of the FAS, from the current emphasis on cross compliance requirements to new farm practises under the new greening of the direct payments scheme.

It will also include other requirements and actions stemming from EU legislation and rural development measures, such as climate change adaptation and mitigation biodiversity, protection of water, innovation, the water framework directive (WFD), sustainable use of pesticide directive (SUPD) and the economic development of small farms.

The reform package is still under discussion in the European Parliament (EP) and the Council. In general, the Council see this enlargement of the scope as a potential administrative burden for their national administration. The EP, on the contrary, sees the FAS as an instrument to be developed and to be as comprehensive as possible, since it aims to help farmers.

The Council could accept the enlargement of the compulsory scope of FAS proposed by the Commission but only for the requirements under greening of direct payments. The Council refuses to enlarge the compulsory scope to the other measures related to rural development and to the economic activity of small farms (this part should be placed in the voluntary scope of the FAS).

The EP supports the Commissions proposal for the compulsory scope of the FAS and further adds to this scope Rural Development measures in the areas of economic and environmental adaptation of farms. The EP further extends the voluntary scope of the FAS with measures around conversion, diversification, risk management, use of non-chemical pest management, etc.

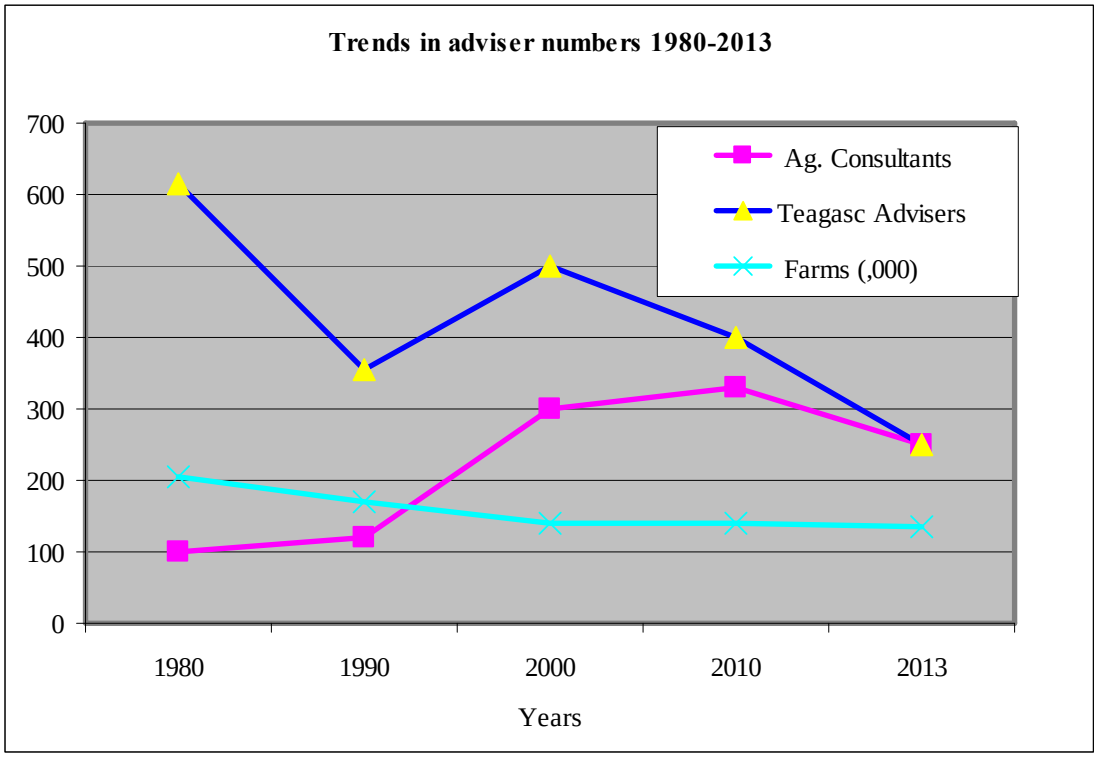
The final result of the reform should contribute significantly to a more-environmental perspective for FAS.

Evolution of Advisory Services in Ireland

Dr. Tom Kelly, Head of Knowledge Transfer, Teagasc, Mr. Michael Brady, President of Agricultural Consultants Association, Ireland and Mr. Peter Bolger President of Agricultural Science Association Ireland.

Advisory services have provided a support system for a more productive and sustainable agriculture, food and forestry sector since1899. Although the organisations, methods and issues have changed over time the mission of making trusted expertise available locally to support innovation on farms has not changed. Farming is, and has always been, a challenging business with a constant need for continuous innovation supported by applied science and the availability of specialist facilitation of learning and new practice adoption. The delivery of advisory services has changed internationally from the direct delivery of advisory services through Ministries of Agriculture to more mixed models of public/private, commercial and NGO delivery with indirect support for public good activities. Ireland has retained a strong, largely publically funded advisory service integrated into its research and education functions based on a model of recovering 33 percent of its cost from farmers.

Figure 1: Trends in Adviser Numbers, 1980 - 2013



As shown in Figure 1, advisory personnel numbers in Teagasc have fallen dramatically due to the reduction in environmental scheme work and it is likely that a further 15 percent reduction in the number of advisers will force a prioritisation of areas of work. A memorable quote from the recent "Best Practice in Extension Services Conference" November 2012[1] was that advisory work still is largely a "Contact Sport" even though the type of contact may have changed with less one to one interaction between farmer and advisor and more group activity now. The other major lesson from the conference was that public funded and private funded services coexist and that co-operation is essential. In addition, the role of wider rural professionals and organisations providing specific product, commercial advice and services to support and influence innovation and change is important.

[1] http://www.teagasc.ie/publications/view_publication.aspx?PublicationID=1590

Service and Development Roles

There are two roles which advisory services play; one is a development function and the other is a service function (see Figure 2). The performance of both these functions within advisory/ consultancy services is of interest. The service function is more transparent in terms of deliverables and as such much easier to measure and charge fees for. The development role is a more long term interaction and less transparent in terms of the outcomes. The combination of both functions in one adviser or to a lesser extent in one organisation offers the advantage of being able to build solid relationships with farmers through the delivery of services which can provide a foundation to influence development. The big disadvantage of this is that the balance between service and development will invariable lean toward the service function in the absence of a strong programme-driven organisation.

Figure 2: Service and Development Function matrix

1. One extreme here is private goods. These services command full fees for professional input. The fees for these services will be recouped by the individual through the outcome of the work, e.g. accountancy services, veterinary and agro-chemical prescriptions, legal advocacy, estate agency work.
2. Less extreme private goods are the delivery of services, which although delivering private benefits to an individual, also provide wider benefits for the economy, the environment and society generally; e.g. environmental reward schemes, cross compliance advice and advisory support services.
3. Less extreme public goods are the promotion of new technologies and systems through one to one contact where the benefit is small or not easy to demonstrate to an individual. However, wide spread adoption brings significant economic, environmental and society benefits to the public; e.g. support for EU schemes, carbon mitigation, water quality, alleviation of farm financial difficulty.
4. More extreme public goods are the services made available to the target audience in groups, through open access platforms where participants can benefit from the information and knowledge; e.g. farm occupational health and safety, biodiversity advice, general public awareness.

In Ireland, Teagasc and its predecessor organisations has provided a combination of service and development roles 2, 3 and 4 while private consultancies mainly provided 1 and 2. With the reduction in frontline staff in Teagasc there is a significant reduction in capacity to deliver services and a concern as to how to protect the development role of advisers. Private consultants have grown in numbers but remain dependent for funding on services. There is reduced potential for private consultants to develop businesses and clients due to the cessation of some of the environmental schemes and these consultants are looking to fulfil a more development/ public good role.

Options for the future

1. **Do nothing.** This option will see a further decline in Teagasc advisory staff numbers in the next three years with some areas and programmes being neglected or abandoned.
   Disadvantages:
   - Quality of service issues, increased workload
   - Reputational damage to Teagasc; lack of confidence in research
   - No guarantee that private consultants will pick up this work.
2. **Differentiate the work**. Teagasc advisers stepping back from one to one delivery and leaving this to the open market.
   Advantages:
   - More advisory time to focus on productivity/ public goods

   Disadvantages:
   - The most lucrative client/work would be cherry picked.
   - The client/adviser relationship which exists with Teagasc would erode and could not be leveraged for developmental work.
   - The holistic programmatic approach which is facilitated by Teagasc would weaken
   - Current cost recovery ratios would reduce.
3. **Teagasc managing the delivery of programmes** though a mixed model where some services are outsourced to, or delivered in partnership with, private consultants and commercial advisers.

Advantages:

- Teagasc would manage and support the quality of programmes delivered.
- Teagasc would manage the client relationship so that centralised services continue to be developed and provided to clients, e.g. newsletters, e-Profit Monitor etc.

Disadvantages:

- Clients would be poached for services based on relationship built up with sub contractors.
- Teagasc carries the risk/cost of non viable services.

Conclusion

In view of the opportunities and challenges facing Irish Agriculture as outlined in Food Harvest 2020 [2], option 3 is the model of knowledge exchange that would best use the wealth of information that is available through an integrated, holistic and accountable organisation like Teagasc. Advisers, and private and commercial agricultural consultants must use the opportunity of Operational Groups in the EIP for "Agriculture Productivity and Sustainability". They must become a lean and highly effective consortium that steers the development path for as many farmers as possible. Teagasc can achieve much more in terms of increasing the use of applied research based knowledge and best practice by leveraging the support of industry stakeholders and the capacity of private consultants and commercial advisers.

[2] http://www.agriculture.gov.ie/agri-foodindustry/foodharvest2020/

Lessons from Case Studies in Knowledge Transfer and Innovation

Mr. Sylvain Lhermitte, French Agricultural Chamber/ENRD

This paper summarises initial work by the ENRD Coordination Committee's Focus Group (FG) on Knowledge Transfer and Innovation (KT&I). Launched in June 2012 by the ENRD Coordination Committee, the Focus Group has been looking at how the RDP supports Knowledge Transfer & Innovation in practice under the current policy framework. The aim is to provide recommendations to Member States about how to promote KT&I in the next programming period, particularly in the context of the European Commission's proposals for rural development policy after 2013 which identifies innovation as a cross-cutting priority. The FG also seeks to inform how the European Innovation Partnership for Agricultural Productivity and Sustainability can effectively promote KT&I through RDPs and what can be the role of National Rural Networks and advisory services in, for instance, facilitating the emergence of "operational groups". The FG is composed of representatives from EU Member States' national administrations, National Rural Networks, as well as EU organisations and academics.

Innovation and Knowledge Transfer are acknowledged as important tools for helping Member States to tackle the economic crisis and several types of innovation processes were reviewed by the FG. Differences between 'linear', 'systematic' and 'interactive' innovation models point to the benefits that arise from support systems that balance demand-led approaches with inputs from appropriate levels of technical know how. Policy interventions at various stages of the innovation lifecycle are seen as favourable. This includes fostering the right type of open attitude by all the actors involved in the innovation process to encourage the emergence of new ideas from bottom-up sources. The involvement of multiple actors and stakeholders support during these early life cycle phases of the process is an area where rural development policy can assist, such as through promoting knowledge exchanges and engendering trust.

Multiple interaction between the actors and stakeholders as well as networking are also considered particularly important to nurture and enable new ideas to fulfil their potential. Support is noted as useful to help take innovative ideas beyond the initial test or prototype stage, so as to ensure that the concepts are capable of being fully fit-for-purpose once they start to be used in practice. The involvement of support during this 'scaling up' process is an area where rural development policy can assist, such as by helping to overcome bottlenecks - like offsetting inherent risk.

Another important determinant for successful innovation models relates to appreciation of the different factors that drive different types of innovation (e.g. academic innovation may seek peer citations, whereas farmers may be aiming to increased business productivity, and environmentalists may have goals linked to replication of new approaches). Understanding the perspectives of stakeholders will aid the design of optimal innovation models.

Improving the coordination and consistency between Agricultural Knowledge and Innovation Systems (AKIS), support sources can further strengthen prospects for effective rural innovation processes. Similarly, moves to introduce more dedicated monitoring and evaluation systems can be useful for learning lessons and demonstrating the added value that is possible from funding for AKIS.

Innovation support structures were discussed by the FG, which places emphasis on the beneficial opportunities that can arise from introducing more 'innovation brokers' into the innovation support toolkit. Innovation brokers should possess flexibility for: providing information about potential collaborators; brokering a transaction between two or more parties; acting as a mediator, or go-between for bodies or organisations that are already collaborating; and helping find advice, funding, and support for the innovation outcomes of such collaborations. To perform well, it is fundamental that the innovation broker has a completely independent position *vis-à-vis* the stakeholders of the innovation.

All documents can be downloaded from the webpage of the FG KTI:
http://enrd.ec.europa.eu/themes/research-and-innovation-gateway-development/kt-innovation/kt-focus-group/en/kt-focus-group_en.cfm

Agricultural Knowledge and Innovation Systems (AKIS)

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Introduction

Innovation is an important challenge for European agriculture, but little is known about the performance of the Agricultural Knowledge and Innovation Systems (AKIS). Therefore, the European Union's Standing Committee on Agricultural Research (SCAR) set up a Collaborative Working Group (CWG) with participants from the European Commission and the member states (both civil servants and researchers or extension workers) to reflect on Agricultural Knowledge and Innovation Systems. The CWG asked experts to provide a paper on the concepts used in science and a paper on social innovation. The members collected and presented material from their own countries in workshops and discussed trends and future scenarios.

This presentation summarises this knowledge and it reports on experiences from different countries and regions. The systems are very different among European countries, regions and sectors. Although they are changing and diversity is useful in innovation and transitions, there is no guarantee that they are fit to address the challenges posed by the need to increase productivity and sustainability in agriculture and food production.

Motivation in different parts of the AKIS

Different parts of AKIS, such as education, extension and research face different challenges. They are also governed by different incentives, which can be problematic for synergy and cooperation within an AKIS. Education is often weakly connected to research, extension and business. Applied research is often reviewed on scientific output, much less on practical relevance. Networking and cooperation between research and extension or farmers groups is crucial and to be promoted. Agenda setting by farmers and food businesses is more important than just more research dissemination. We therefore advocate a distinction between *science-driven research* and *innovation-driven research* in the motivation of research. Programming, farmer/business involvement and the role of the EU are quite different in both types (Table 1). By taking this difference in motivation into account, research policy and management could be improved.

Table 1: Two types of motivation for research

Aspect	Science driven research	Innovation driven research
Incentive to program a topic	Emerging science that can contribute to solving a societal issue (or a scientific question)	An issue / problem in society that can be solved by new research, or a new idea to solve an existing issue
Participation of users	In demonstration phase / via research dissemination	In agenda setting, defining the problem and during the research process
Quality criteria	Scientific quality	Relevance (for the sector or a region)
Focus	Research organisations	Networks of producers and users of knowledge
Diffusion model	Linear model	System (network) approach
Type of government policy	Science / Research Policy	Innovation Policy
Economic line of thinking	Macro-economics	Systems of innovation
Finance	To a large extent public money: more speculative and large spill over effects	Public-private partnerships very possible / advantageous
The role of the EU	Efficiency of scale (member states often too small), smart specialisation between member states, create European research	Stimulate interaction and learning in Europe between national/regional AKIS. Enable in CAP innovation by

Aspect	Science driven research	Innovation driven research
	market with harmonisation of hard- and soft infrastructures	networks with farmers
Typical EU examples	Horizon 2020, FP7, ERC, some ERAnets, Joint Programming Initiatives	CAP: European Innovation Partnership, LEADER, European Technology Platforms, EIPs, some ERAnets
Type of research	Interdisciplinary with absorption capacity in AKIS (to work with material science, ICT, chemistry etc.).	Transdisciplinary and translational with close inertactions.

Policies towards AKIS

Coherent policies regarding AKIS are scarce and the monitoring of innovation and innovation systems is nearly absent and conceptually challenging. This suggests there is room for improved, coherent policy making in member states and in the European Union / Research Area. There are elements in the European Innovation Scoreboard, the Community Innovation Survey and the Farm Accountancy Data Network that could be a starting point for better monitoring of policy. It also implies possibilities for learning between member states (regions) at a European scale – a process that could be facilitated by the EU.

The Common Agricultural Policy (CAP) should use parts of its budgets to encourage *innovation-driven research* with empowerment of (groups of) farmers and could play a role in exchange of know-how in Europe. As the bulk of innovation-driven research is regional, the EU's Horizon2020 could focus on *science-driven agricultural research* and organise smart specialisation (related to social challenges): there are huge challenges that call for more investment in agriculture where at the same time government budgets are becoming very tight. *Science driven agricultural research* is not only science for science (as carried out by the European Research Council) but also science for competitiveness and for society, linked to social issues (Table 1). The linkage of Horizon 2020 and the CAP should guarantee the collaboration between *science-driven* and *innovation-driven* research.

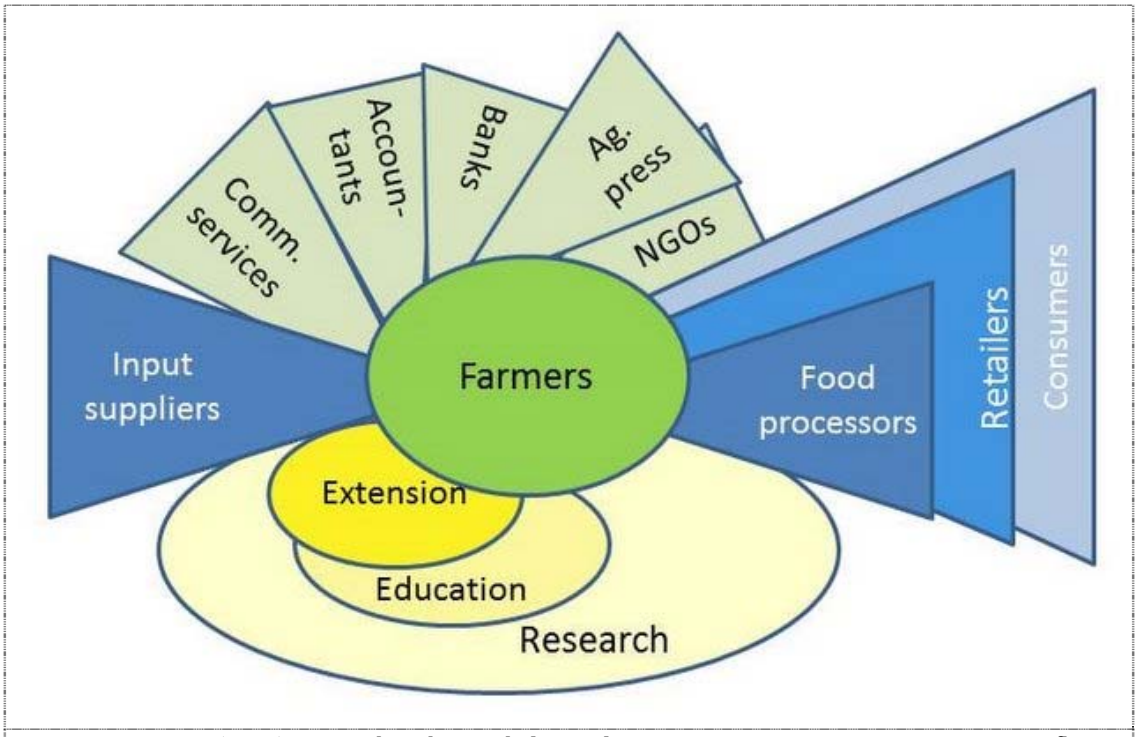
Innovation actors and the responsibility for innovation

AKIS is a useful concept to describe a system of innovation, with emphasis on the organisations involved, the links and interactions between them, the institutional infrastructure with its incentives and the budget mechanisms. Although the components, Extension (Farm Advisory) system, Education and Research are often stressed, it is important to realise that there are many more actors in the food chain that directly influence the decision making of farmers and their innovations (Figure1).

Innovation starts with mobilising existing knowledge. Innovation is a social process, more bottom-up or interactive than top-down from science to implementation. Even pure technical innovations are socially embedded in a process with clients, advisors etc. Very often partners are needed to implement an innovation.

Innovation is first of all the responsibility of businesses but it is a government responsibility too. There are two main reasons for this. First, innovation not only benefits those who innovate, but also others gain: future innovators as well as the clusters of business and the economy at large with a better competitive position and in the long run more jobs and higher incomes. These are so-called positive externalities (spill-over effects) that an investor in innovation does not take into account and can lead to underinvestment in innovation. A second reason for governments to promote innovation is that this is one of the policy instruments to mitigate negative external effects such as environmental pollution in agriculture and food production.

Figure 1: Actors in the AKIS directly relevant for agricultural innovation in the food chain



Source: EU SCAR (2012), *Agricultural Knowledge and Innovation Systems in Transition – A Reflection Paper*, Brussels.
Note: Commercial services include laboratories, veterinarians, management software, notaries, land brokers etc. Accountants have been mentioned separately as being in some countries very influential on strategic decisions

As innovation is a risky business and benefits from the exchange of ideas, learning and innovation networks have proven to be an adequate vehicle for empowering groups of farmers to investigate new options to make their business more viable or sustainable. It also seems to be an efficient form for information brokers such as farm advisors. This implies policy instruments that finance collectives in networks, including food chain partners, non-governmental organisations (as advocates of sustainability), extension and research. It should be noted that innovation policies can consider many more instruments than research: for instance labour market policies, regulation (with standards or mandates) or de-regulation and access to risk bearing capital can be as important as research or could strengthen its impact.

Social innovation refers not only to the social aspects of the innovation process, nor only the objective that innovations should also be sustainable in the corporate social responsibility sense, but also to the fact that social problems need innovative approaches. These include rural development in regions with aging or declining populations, decreasing (governmental) service levels and (sometimes) uncompetitive agriculture. But social innovation with urban farming and food projects can contribute to improved quality of life in poor neighbourhoods of big cities with high levels of unemployment and high rates of obesity. Social innovation can go along with the desire to strengthen the link between urban life on one hand and food and the rural area on the other hand.

Knowledge Mobilisation for Sustainable and Competitive Agriculture

Dr. Gordon Purvis, University College Dublin, Professor Liam Downey, University College Dublin and Dr. Bob Lawlor, NUI Maynooth.

In response to the unprecedented economic and social complexities that now need to be addressed, and indeed what is seen an emerging *Food Crisis*, priority needs to be given to the development of food production systems that meet the following design criteria:

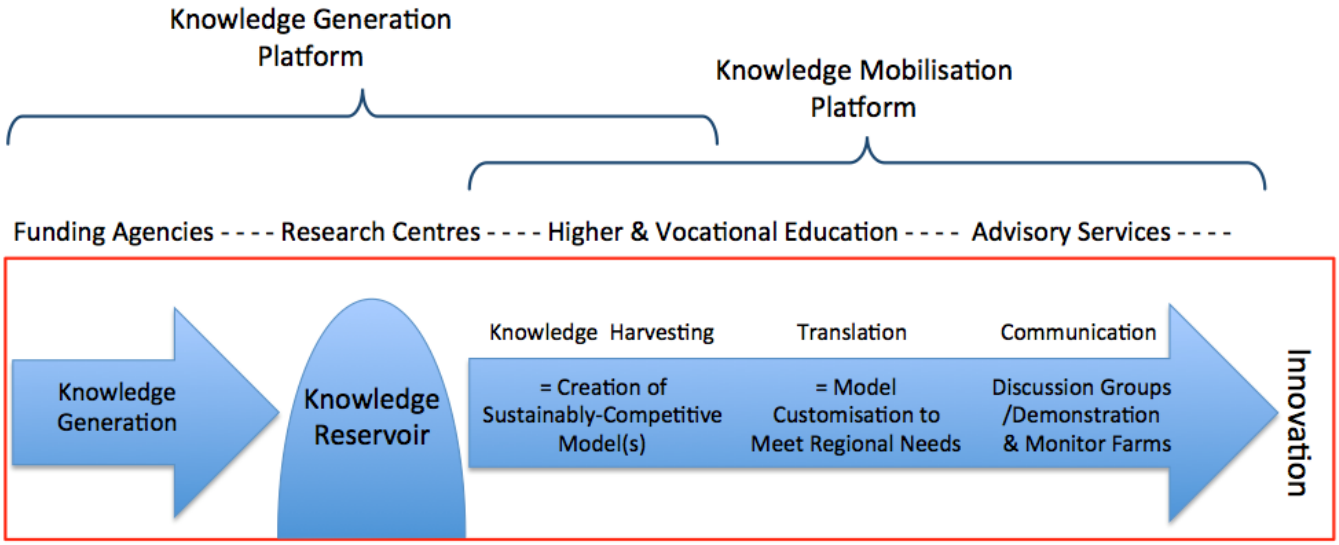
- Profitability at farm level,
- Market required products,
- Animal health and welfare needs,
- Environmental sustainability,
- Can cope with climate change,
- Energy efficiency

These criteria specifically apply to livestock systems. However, analogous frameworks for crop production systems would feature basically similar components, with an emphasis on plant genetics/breeding, crop nutrition/husbandry and crop pest/disease control. At its heart, the model for Sustainably-Competitive Agriculture comprises three basic dimensions pertaining to farming, food and the environment, respectively.

Knowledge Management

Knowledge management will be key to the development of such an integrated approach. A framework will be presented for thinking about both the organisational structures and processes required to achieve an integrated application of knowledge from multiple disciplines in system innovation. The first requirement is a process that brings together the necessary expertise from multiple relevant disciplines to articulate the full perspective of scientific understanding in the creation of Sustainably-Competitive Agri-Food Models. A key part of knowledge management is subsequent transfer, or *Knowledge Mobilisation*, to the end users. The central requirement in the agricultural, environmental and food sciences is a dedicated process for the integration of new knowledge into systems development that better ensures its up-take in innovation by end users. This requires effective targeting of knowledge gaps, customisation of findings in systems development, and a significant re-invigoration of processes for demonstration and communication of the resulting benefits to end users. Particular attention needs to be given to effective knowledge *harvesting*, *translation* and *communication* processes (Figure 1).

Figure. 1: A conceptual framework for thinking about the integrated application of new knowledge in Agri-Food



Within this framework, there is considerable room for us to consider at this conference, the most appropriate alignment of organisational components (Research, Higher and Vocational Education and Advisory agencies) within the processes of stimulating innovation.

Reformed Advisory Services

A number of European Foresight reports have highlighted the growing need for new forms of organisational structures to meet the needs of the Agri-Food sector. These include public-private partnerships, which can open up new opportunities for raising innovative capacity within the agri-food sector. The spectrum of farming in Europe ranges widely from large-scale, technologically flexible agribusinesses to 'middle-sized' farmers seeking to support a full family-farm income and part-time farmers often in productively marginal circumstances. There are significant 'public-good' dimensions across this full range of farming categories, relating to safe and efficient food production and the socio-economic and environmental sustainability of Europe's land management systems. In reforming advisory services, a fundamental question relates to the structural components and advisory capabilities needed for the delivery of knowledge in different production contexts.

A core component of advisory services is likely to be a well constituted stakeholder group, linked to a wider *Operational Group* established to drive Knowledge Mobilisation within particular production sectors. Farmers frequently innovate through peer group interaction, and farmer discussion groups are well-recognised vehicles for the transfer of new ideas and technology. Peer group interaction is even more effective when group meetings are held on member's own farms, especially when the adviser co-ordinating the discussion group has access to accurately monitored data that show the benefits of innovation. The concept of *blended learning*, by which online e-learning is combined with face-to-face instruction, has created the opportunity for innovation in knowledge transfer systems. To facilitate the continuum of organisational support illustrated in Figure 1, the co-ordinating advisers responsible for such advisory activities need to be centrally involved in the prior steps of embedding and evaluating new research findings within longer-term, system-based R&D programmes. In reforming advisory services, a fundamental question relates to the necessary range of expertise that will be required within future advisory services. To assist knowledge mobilisation for the sustainable improvement of farm productivity, farm business skills are clearly an imperative that is core to advisory support services; whilst understanding of the links between the Farming, Food and Environmental dimensions of production systems is the new imperative.

Agri-Food Education

A key requirement for the development of new models for economically and environmentally sustainable food production, is the education of all those involved in agri-food businesses and services, including policy and descision-makers, and of course those engaged in the advisory and extension services. An immediate question in this regard is what are the implications of the Sustainably-Competitive model outlined above for education in the wider agriculture and food arena? In undergraduate education, it is necessary that the farm, food and environmental dimensions of the agri-food system are fully integrated. Education will be key to addressing the complex issues faced in Agri-Food and a European-wide reappraisal of the objectives of education systems at all levels is warranted.

Future Policy Directions

To meet the considerable challenges facing global food production, it is essential that all the components necessary for Knowledge Mobilisation are efficiently harnessed in a strategy to maximise the effectiveness of available resources. At both EU and individual Member State level, this requires a wider debate concerning how synergies can be achieved, not only between the obvious institutional components within agri-food (government, universities, vocational education centres and advisory/extension services), but also the full range of other participants ranging from producers and processors to marketing, retailer and consumer interests. This is a daunting challenge and one that can only realistically be achieved by a highly focused strategy that stimulates system-specific innovation. Organisational systems and support structures for knowledge mobilisation will be key, as future farmers are increasingly likely to operate in a world in which environmental policy supplants traditional agricultural policy as the key determinant of sectoral performance.

Conclusion

There are important linkages between the dimensions of knowledge management that we underline and the important opportunities now being provided by the *European Innovation Partnership for Agricultural Productivity & Sustainability* at EU-level, and the concept of locally-organised *Operational Groups* at Member State-level. The current conference provides us with an opportunity to

consider how these opportunities can best be used to stimulate innovation in meeting the considerable challenges ahead.

Opportunities provided by the European Innovation Partnership "Agricultural Productivity and Sustainability" and its Operational Groups

Ms. Inge Van Oost, European Commission, DG Agriculture and Rural Development

1. Initiating the Agricultural EIP

The agricultural European Innovation Partnership (EIP) aims to foster a competitive and sustainable agriculture and forestry that 'achieves more from less' input and works in harmony with the environment. It will contribute to ensuring a steady supply of food, feed and biomaterials, both existing and new ones in harmony with the essential natural resources on which farming depends. To achieve this aim, the EIP needs to build bridges between research and practice (farmers, businesses, advisory services, etc).

The innovation model under the agricultural EIP goes far beyond speeding up transfer from laboratory to practice through diffusion of new scientific knowledge (referred to as a "linear innovation model"). The EIP adheres to the "interactive innovation model" which focuses on forming partnerships - using bottom-up approaches and linking farmers, advisors, researchers, businesses, and other actors in Operational Groups. This will generate new insights and ideas and mould existing tacit knowledge into focused solutions that are put into practice quicker. Such an approach will stimulate innovation from all sides and will help to target the research agenda. Innovation under the EIP may be technological, non-technological, organisational or social, and based on new or traditional practices.

2 EIP Operational Groups (OGs)

Operational Groups will bring together farmers, researchers, advisors, businesses and other actors to implement innovative projects pursuing the objectives of the EIP for Agricultural Productivity and Sustainability. Operational Groups can be supported by means of Research and Rural Development Policies: both policies are providing opportunities to interested actors who engage in actions on developing, testing and applying innovative approaches.

The complementarity of both policies results from the fact that actions under Rural Development Programmes are normally applied within a specific programme region, whilst research policy must go beyond this scale by co-funding innovative actions at the cross-regional, cross-border, or EU-level. Other policies, namely Cohesion and Education Policy, might offer additional opportunities.

3 Knowledge exchange - The EIP network

As a key instrument of the EIP, a Brussels-based network facility will work as a mediator enhancing communication between science and practice and fostering cooperation. This "EIP Service Point" will encourage the establishment of Operational Groups and support their work through focus groups, seminars and workshops, the establishment of data bases (on relevant research results and good practice examples), support for partnering, and help desk functions. In order to widen the knowledge base and sharing of experience, Operational Groups will report back to the EIP network about their innovation actions. The EIP network will facilitate the effective flow of information beyond the local and regional level of each Operational Group.

4 EIP Actions funded under the Research and Innovation Policy ('Horizon 2020')

Horizon 2020 is the financial instrument for research and innovation in Europe. Running from 2014 to 2020 with a proposed budget of €80 billion it will combine funding currently provided through the Framework Programmes for Research and Technical Development with other European innovation related programmes. A budget of €4.5 billion is proposed to support the societal challenge, "Food security, sustainable agriculture, marine and maritime research and the bioeconomy".

The proposed Horizon 2020 regulation foresees the implementation of the Societal Challenge "Food security, sustainable agriculture marine and maritime research and the bio-economy" via a "*multi-actor approach*" which "*will ensure the necessary cross-fertilising interactions between researcher, businesses, farmers/producers, advisors and end-users*". This approach towards involving the relevant innovation actors fully matches with the concept of Operational Groups.

The undertakings of Horizon 2020 in support of "Operational Groups" will be translated into instruments and practical approaches via the annual work programmes and calls for proposals. Current thinking involves projects integrating a continuum from basic to applied research, cross-border and cluster initiatives such as thematic networks, multi-actor approaches, pilot or demonstration projects, as well as supporting innovation brokers and innovation centres as intermediates to connect farmers and stakeholders with research. Up to date information on calls for projects or on contributing as an expert to proposal evaluation will be available at: http://ec.europa.eu/research/participants/portal/page/home

5 EIP Actions funded under Rural Development

The proposed Rural Development Regulation provides for financial support for Operational Groups (OGs) under the so-called cooperation measure. Support covers both setting up EIP OGs and funding their operations. The measure also supports many other activities which pursue the objectives of the EIP. One such is support for networks, which bring together a variety of actors and by sharing needs and knowledge may initiate actions of OGs and support actions of existing groups.

The co-operation measure supports the development of new products, practices processes and technologies as well as support for "pilot projects". Pilot projects would pursue the testing and adaptation of technologies, processes etc. to "new" geographical/environmental contexts (i.e. contexts in which they have not yet been used).

In addition, OGs may be eligible for support under other measures such as knowledge transfer and information actions, investment in physical assets, farm and business development and advisory services. OGs may of course also use funding instruments outside rural development policy.

The EIP aims at a flexible and open system for the creation of a multiplicity of operational groups. OGs and LEADER LAGs have in common that they capture ideas from interested actors and foster the setting up of projects. However, LAGs act on the basis of a comprehensive local development strategy. LAGs will approve several projects to implement this strategy. In contrast, an EIP OG builds itself around a concrete innovation project, while not necessarily being bound to a specific territory or an upfront fixed strategy. Its composition varies from project to project, maximising interaction and cross-fertilisation between the actors involved. Project implementation is targeted towards developing an opportunity or finding a solution for a specific issue and may take less than 7 years.

5. The Farm Advisory System

The Farm Advisory System (FAS) was set up as a component of the CAP reform of 2003. Member States are obliged to have an advisory system in place which can help farmers comply with cross-compliance requirements via the provision of technical advice. The establishment and use of the FAS is supported by Rural Development Policy (see above). In the current period 2007-2013, the advisory activity shall cover at least the Statutory Management Requirements (SMR) and the standards for Good Agricultural and Environmental Condition (GAEC) but may go beyond for the Member States who want to do so.

Within the Commission proposal for the CAP 2014-2020 period it is envisaged to widen the scope of the FAS to, inter alia, actions related to innovation. All advisers can play a major role in enhancing innovation, whether they form part of the FAS or not. Not only may advisers form part of OGs as one of the actors, they are also an important interface between research and practice. On the one hand, the EIP network can help advisers in providing ready to use research results and examples of good innovation practices. On the other hand, advisers may indicate practical stumbling blocks for the implementation of existing solutions and reveal needs for further research related to productivity and sustainability. This mediator role of advisers is precisely why they will be integrated in the actions of the EIP.

6. Innovation Brokers

Raising awareness and animating the participation in innovative actions are key for the successful implementation of the EIP. Single actors might have difficulties in finding partners and getting an OG project started. An "*innovation broker*" is an impartial person or organisation that could help this process by acting as a go-between for developing grassroots innovative ideas. Innovation brokerage

focuses on discovering innovative ideas, connecting partners in an OG, finding funding sources and preparing a project proposal on which all actors agree that it will bring what they expect to be a targeted solution or the development of an opportunity. If through the innovation brokering a good OG project plan is born - whoever is the broker - it will have a better chance of passing a selection process for interactive innovation projects. Ideally, innovation brokers should have a good connection to and a thorough understanding of the agricultural world as well as well-developed communication skills for interfacing and animating.

"We share a saying in most European languages that necessity is the mother of invention. For agriculture, such a moment of necessity has come – and we need new approaches to farming. Solving the future challenge of producing more with less and in a more sustainable manner is not mission impossible, but it does require a fundamental shift towards a different growth path and a swifter transfer of new products or techniques into practice. Currently we do not have sufficient knowledge and methods at hand to do so. We need to invest in research and innovation and to ensure that our investments are translated into concrete results on the ground, and by better coordination at EU level, we see the prospect of genuinely European added-value. ….Having said that, boosting research and innovation budgets is not a silver bullet. In our respective roles as Commissioners for Agriculture and for Research in the past three years, we have both come across very interesting research projects which have little chance of making the switch to even small scale agricultural practice in the near future. It is clear to us that an increase in research funding will only work really efficiently if we can create the right environment for innovation to thrive. Agricultural innovation has to be more than the result of one-way transfers of scientific results to practice. Indeed, innovation prospers when the gap between the worlds of research and farming are closed by permanent interaction – sharing knowledge, ideas and thinking together. And this is precisely the objective we want to achieve with the ***European Innovation Partnership for Agricultural Productivity and Sustainability*** *(EIP)."* (**Dacian Cioloş**, European Commissioner for Agriculture & Rural Development and **Máire Geoghegan-Quinn**, European Commissioner for Research, Innovation & Science, (2013) in Eurochoices, 12 (1) 4-6. *http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291746-692X*

Session 4 Worksheet Template

SECTOR/AREA:_____ TOPIC: _____

STRENGTHS OF EXISTING KNOWLEDGE TRANSFER:
WEAKNESSES OF EXISTING KNOWLEDGE TRANSFER:
NEW CHALLENGE: (Knowledge gaps between research & practice)
KNOWLEDGE TRANSFER ACTION PROPOSED: ACTORS INVOLVED:
IMPACT ON PRODUCTIVITY AND SUSTAINABILITY: EG. OTHER PUBLIC GOODS:

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NDP
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