



SOLINSA
Support of Learning and Innovation
Networks for Sustainable Agriculture

Agricultural Knowledge Systems In Transition:
Towards a more effective and efficient support of Learning
and Innovation Networks for Sustainable Agriculture

solinsa.net



Workshop Report

**Agro-ecological and conventional food production knowledge systems:
making the connections to enhance innovation and learning**

24th April, 2013

Bordeaux Quays, Bristol

Countryside and Community Research Institute

Julie Ingram, Damian Maye, Katarina Kubinakova

Agro-ecological and conventional food production knowledge systems: making the connections to enhance innovation and learning

Workshop aims

Agro-ecological¹ production systems are often defined by their differences/opposition to conventional farming systems. However, these systems share some common goals, such as more sustainable production of food, with reduced or efficient use of inputs and reduced environmental impacts. Both communities engage in research and in diverse and innovative knowledge exchange activities relevant to these goals. This workshop aimed to understand the (dis)connections between 'agro-ecological' food production communities and more conventional agricultural communities focusing on systems of knowledge, information, innovation and learning. It also aimed to facilitate networking between representatives from both these communities by allowing participants to learn from each others' approaches to research, learning and knowledge exchange.

Workshop participants

Fourteen participants attended (listed in the Appendix) representing both mainstream and agro-ecological activities.

Summary of workshop discussions

Summaries of the workshop discussions and exercise outcomes are presented here (pages 1-4). More detailed outcomes are presented on pages 5-11..

1. Discussion of personal experiences with knowledge exchange initiatives (rich pictures): outcomes of discussion and key points

Participants' experiences were varied. They referred to a range of projects and initiatives from a number of contexts; both positive and negative experiences were recounted. Some common experiences emerged and it was possible to identify some key points or principles of effective knowledge exchange (see below). The most common theme to emerge was the need to value local knowledge and involve farmers at an early stage of any project to encourage ownership. Important process-related points were also raised about good management, managing collaboration and goal setting. For example, the effectiveness of the farm tourism network in the Peak District (described by Brian) was attributed to it being well managed. Equally, facilitation emerged as a key process, Luppo, for instance, described the importance of facilitation processes with his group of farmers, as did Jenny P with reference to the environmental delivery framework example. Capacity building and knowledge sharing were also highlighted as important principles to enable knowledge exchange, this is the aim of the Soil Association's Field Labs (presented by Euan). Agreement on intended outcome was regarded as important and projects were seen at risk of failure when there is a lack of agreement about the problem that is being addressed. However, where projects have a number of partners (an increasingly common feature of projects and partnerships) they may have different outcomes/ goals in mind (sometimes conflicting) and this can make projects difficult both to manage and to evaluate.

2. Knowledge needs for sustainable agriculture

The following three questions were considered in three groups:

¹ This term is used here to refer to agriculture practised according to ecological principles and includes 'alternative' forms of food production operating outside mainstream agriculture.

- ***What sort of knowledge is important for achieving sustainable agriculture?***
- ***What sort of knowledge exchange approaches work best for achieving sustainable agriculture?***
- ***What are the principles of effective knowledge systems for achieving sustainable agriculture?***

Some participants argued that sustainable agriculture often needs a more complex set of knowledges than conventional agriculture. Sustainable agriculture is thought to need qualitatively different knowledge from conventional agriculture where simple solutions (with technical knowledge) are sought. Equally it was argued that sustainable agriculture requires intuitive, local, context-specific knowledge. Tensions between scientific knowledge and local knowledge were therefore identified; the latter tends to be undervalued and is not legitimised in the same way as the former. It was also noted that local knowledge cannot be easily transferred and needs to undergo some scientific validation or explanation (by researchers) to allow it to be communicated and used elsewhere. Fundamental knowledge underlain by certain principles, for example, an understanding of the C and N cycles, was seen as value-neutral knowledge that all systems could draw on as a baseline. Credibility is related to trust in the source. There was some debate about what constituted a trusted source, some felt that scientific evidence was important to farmers, others suggested that farmers were suspicious of some scientific research outputs, particularly where it was linked to commercial organisations. All agreed that knowledge also needs to be practically and financially viable to be credible. The importance of intermediaries in assisting communication between science and practice was identified. Farmer groups were variously described as inward looking, conditioned by their background with a common shared 'food production narrative', and as being more active in bringing in, and creating, new knowledge. The need to recognise the importance of self-awareness, personal drivers and beliefs that inform perceptions and language was highlighted, as these are barriers to collaboration and shape judgements/labels unconsciously. The need to understand farm context and constraints was also raised.

3. Boundaries and connections between the conventional AKS and the agro-ecological knowledge system

The following two questions were considered in two groups:

- ***To what extent are there boundaries between agroecological (AE) KS and conventional KS?***
- ***What is the nature and extent of current connections between KSs?***

There was a general consensus that there is an agroecology knowledge system (AE KS) but it is not singular; in other words, there are many AE KSs. The nature of the AE KS(s) was described as loose and not with any particular structure, it was seen more as a loose collection of interested people and organisations. Divisions (boundaries) were described between mainstream KS and AE KS due to entrenched views and different value systems, perpetuated by the agricultural education system, the dominant food policy discourses (such as sustainable intensification) and the fact that AE knowledge and local knowledge are under-valued. Within boundaries views tend to be reinforced and this can be a defensive mechanism. Also there are boundaries within boundaries which reveal different degrees of entrenchment. With respect to potential connection between the two KSs, it was agreed that agroecology is becoming more popular/acceptable than it was before and that some of the practices are now more mainstream. However, although some integration is occurring this was described as piecemeal, with the mainstream KS 'cherry picking' some practices, rather than embracing the full concept of AE. A number of examples were presented of initiatives where some form of boundary spanning was on-going. Some argued that different KSs want the same outcomes but just have different policies. However, it was generally felt that the conventional KS cannot meet

the needs of the AE without some modification, due to the different underlying belief systems; also that the KS does not appreciate that it needs the AE KS. Sustainable intensification was mentioned as the dominant conventional agriculture discourse – current (bioscience/techno-centric) interpretations of this term are seen as a barrier to integrating AE. Some knowledge is thought to be neutral across the systems such as soil biology and ecology- it is shared, in other words, by both KS but will be applied in different ways.

4. Forces enabling and forces constraining connections between the agroecological knowledge system (s) and the mainstream knowledge system

In this Force Field Analysis exercise individual participants suggested enabling and constraining forces for connecting the agroecological knowledge system(s) and the mainstream knowledge system. They wrote down the force they considered important on a post-it, rating its impact on a scale of 1 to 5 (-1 to -5 for constraining forces), and added it to a large chart. Each comment relates to an individual's view, some views are replicated or express the same opinion. Post-it comments have been grouped together in Table 1.

With respect to **constraining forces**, there was a group of comments concerning the nature of research funding and agendas which are described as short-term and skewed towards high-tech solutions. Associated with this comes the privatisation of knowledge, which limits access to those concerned with commercial (and academic) research. These all are rated between -2 to -4 in terms of the strength of constraint. Comments pointing to economic drivers and market competition (rated -3 to -4) can be linked to those about research funding, since the research agenda can be seen as responding to economic drivers and market competition.

Another set of comments referred to poor communication (rated -4) between the KSs as a constraining force. In connection with this, a lack of funding for facilitation (rated -5) was seen as a strong force which restricts the opportunity for sharing knowledge between peers and between KSs. Separate belief systems (rated as -5) are regarded as a fundamental barrier to connecting KSs. The belief/value system which underpins current research agendas in mainstream KS, and the associated view of what constitutes credible knowledge, restricts linkages with the AE KS, which is underpinned by different values and understandings of what constitutes valued knowledge.

Image (rated -4), which is related to belief systems, is seen as constraining in that it can lead to misconceptions and misunderstanding between groups. Allegiance (rated as -4) to those who share the same beliefs and values (and have the same external image) is regarded as limiting connections with others with different allegiances. Finally, there is a set of constraining forces covering wider issues (all rated -4 to -5) such as a narrow focus on food production and a lack of integration of other elements in the system (e.g. people and energy).

With respect to **enabling forces**, market competition (rated as 5) is seen as a strong enabling force since farmers facing financial constraints are looking for more cost effective and possibly agroecological ways to produce food. Interestingly market competition was also mentioned as a constraining force, so it is seen to both enable and constrain integration of KSs. The growth of the consumer movement (rated as 2) is seen to be important in enabling connections between the two KSs as more farmers respond to consumer demands for 'sustainably' produced food.

A group of comments referring to agri-environment programmes, legume and manure management, soil protection and paying for ecosystem services (rated 3-5) suggest that developments in these areas provide opportunities for connections between the two KSs since many of these practices/activities are operating in both KSs. The positive (with respect to the environment) behaviour of farmers with some peer pressure, and more opportunities for learning together is

regarded as another set of forces which can enable some synergy between the KSs. A better research base (rated 2) and the activity of boundary spanners (rated 5) in connecting research to practice are seen as forces that can enable communication between KSs. Finally, shared problems and goals (rated 3) and recognition of the need for a more joined up approach (rated 4) are seen as enabling forces for linking the two KSs.

In summary, this analysis shows that shared challenges and goals between the two KSs together with the mainstreaming of environmentally beneficial programmes and practices in conventional agriculture suggest that there are connections (or opportunities for) between the KSs. However, fundamental differences in belief systems, image and allegiances are key constraints, as too is the research paradigm that emphasises high tech solutions and responds to economic drivers and dominant policy themes. The importance of communication and facilitation and boundary spanning was emphasised as important enabling connections between the two KSs.

Workshop discussions –detailed outcomes

1.Discussion of personal experiences with knowledge exchange (KE) initiatives (rich pictures): outcome of discussion and key points

Individuals drew a rich picture showing their personal experiences with a particular approach to research, learning and knowledge exchange and shared their picture and experiences with their group, considering the following:

Individual 'rich picture' prompts:

- *What is the purpose/objective of the KE?*
- *Who are the key actors? What is the source of the knowledge?*
- *Who is exchanging knowledge with whom?*
- *Can you characterise the approach? (top down, bottom up etc) Supply led - policy and research driven? Demand led – answering farmers needs? Is it linked to regulation (power?) Is it linked to values/beliefs ?*
- *What have been successes/opportunities, what worked well?*
- *What have been constraints barriers, what did not work well?*

Group discussion prompts:

- *Are there distinctive approaches? How do these relate to purpose/objectives?*
- *Are there defining principles of effective KE?*
- *Are the outcomes/approaches context-specific or are they transferable?*
- *How do you measure effectiveness /outcome?*
- *Where are the main differences and commonalities between examples?*
- *Agree 3 key points you want to share with the rest of the workshop*

The key points emerged from group discussion as follows:

Group 1

- Often KE needs to be a slow process to be more effective, outcomes are better when the approach is incremental, stepwise
- Take time to establish a process
- Setting goals beforehand is key, there needs to be an agreement about the problem and intended outcomes –but not everyone shares the same goals
- Importance of farmer involvement and farmer ownership of the project/initiative
- Managing collaboration is important

Group 2

- Obstacles to KE are related to lack of ownership
- It is important to value knowledge at all levels (strategists listening to those on the ground)
- Problems emerge when norms are challenged
- There is a need to recognise different motivations / needs / ways of thinking

Group 3

- Relevance is key (individuals / groups must buy into it)

- A process is needed to take the idea forward (e.g. processes like record keeping, farmer groups, etc);
- Outcome -projects/initiatives must be on-going with a perceived benefit (e.g. soils must get better if that is the aim, skills must increase, etc).

2. Knowledge needs for sustainable agriculture

The following three questions were considered in three groups:

Group 1 What sort of knowledge is important for achieving sustainable agriculture?

Prompts:

- *Scientists' knowledge/evidence of effective practices and innovations?*
 - *Producers' own knowledge and experience?*
 - *Farm scale knowledge or transferable 'universal' knowledge?*
 - *New innovative knowledge and learning?*
 - *Privately funded (commercial) knowledge or publically funded knowledge or both?*
 - *Credible knowledge - what are measures of credibility, legitimacy?*
- Context is important, and crucial aspect of knowledge - most sustainable practice will be context specific
 - There was a common agreement that a decision was needed about 'what is knowledge?' and 'How do we define it?' (epistemology). Different types of knowledge were identified in the discussion: scientific knowledge; strategic level knowledge (re. policy, for e.g.); practical knowledge; experiential knowledge; intellectual knowledge
 - There is a lot of emphasis on knowledge but a lot of sustainable agricultural practice is intuition – there is a challenge in getting the academic world to value local / anecdotal knowledge; 'inherent' knowledge tends to be under-valued in the Western world
 - How can practical and intuitive knowledge be legitimised? This is recognised as a challenge
 - Farmers often stick to the 'food growing' narrative (and use associated knowledge)– they do what they do because they need to address the demand for cheap food
 - The key question/issue is: what will actually lead to behaviour change? In response it was argued knowledge that can inform / inspire behaviour change, rather than forcing behaviour change, is important

Group 2 What sort of knowledge exchange approaches work best for achieving sustainable agriculture?

Prompts:

- *Approaches based on evidence from scientific research?*
 - *Approaches based on producers and learning together?*
 - *Approaches that take into account producers' needs, values and concerns?*
 - *How important is the source of knowledge to the user?*
- It was argued by some that farmers are conditioned by their background / experience - putting a similar group of them together will lead to limited benefits; plus farmers have an innate suspicion of research and their response depends on which organisation has done it
 - With respect to credibility – information/knowledge must have good/credible source behind it (recognised difficulties of commercially funded work); the user must trust the source of knowledge.

- credibility is related both to evidence from scientific research, to peer sourced information but also to experience –being practical and financially possible are key aspects of credibility
- Knowledge needs to come from a more fundamental understanding of knowledge, from basic principles e.g. C and N cycles
- Some felt that whatever the practice there is a standard way of working it out e.g. dairy nutrition, however, it was argued that for organic farming (OF), for example, it needs to do more than just meet the standards, so a qualitatively different sort of knowledge is needed. Conventional experts have been advising organic farmers but they ‘don’t really understand OF themselves’, they often draw on their conventional knowledge background and experiences
- An intermediary role is needed for gathering, translating and disseminating knowledge
- Need an approach tailored to each group - face to face, verbal, film, farmer groups, etc. So need to understand the group and provide tailored methods [links to point above in Group 1 re. context].
- Farmer monitoring toolkits were mentioned – an easy practical way to measure change on the farm

Group 3 What are the principles of effective knowledge systems for achieving sustainable agriculture?

Prompts:

- *Distinct roles and responsibilities for organisations and actors that produce, exchange and use and linkages between them?*
- *Simple and linear linkages or complex with multiple channels/networks?*
- *Strong integration (strong ties) or fragmented and diverse (weak linkages)?*
- *How can knowledge and action be linked effectively?*
- *How can new learning and innovation be supported?*
- On the question about distinct roles and responsibilities for organisations and actors –roles are blurred. If farmers change something and it works, how do they know how it works? Farmers produce knowledge but then they need researchers to explain the process and make the knowledge universal and transferable, if they are to communicate it outside the group. Scale is important and objective- if policy objectives need to be achieved then there is a need for universal knowledge
- The importance of distinct roles depends on the actor –recipients of knowledge find that distinct roles can be helpful
- People fall into distinct roles because of early life experiences
- There may not be distinct roles but there are always champions within certain sectors that people naturally turn to locally who provide free info –champion voices
- With respect to KS structure, a process or a structure is seen as helpful if knowledge exchange is to be effective
- Farmer networks can be introspective, reinforcing what they already know rather than creating new knowledge ‘You get the group-think where people reinforce knowledge and values but not bring in new stuff’. Although it was equally argued that farmers do bring in knowledge from outside and synthesise new knowledge together, so the system is not closed (‘you can’t have a closed system’)
- Validation of knowledge is important to some farmers and they usually look to research or trusted peers for this. Farmers have to synthesis a whole raft of information. Who do they believe? They have an in- built checking system –they tend to believe researchers because knowledge has been tested (not entirely the same view as Group 2)

- Sustainable systems tend to be complex, there is no single solution, therefore they tend to need more complex knowledge from multiple sources
- A key role is that of broker or facilitator – they make sure the groups works, they take on an objective role, they allow knowledge to circulate (even if it is erroneous) and then correct itself
- KS Integration -strong integration and strong ties exist within smaller farmer groups who have commonality of aims and meet on a regular basis, in contrast diffuse, distinct meetings on separate subjects (run for example by the levy boards) are weakly integrated. However the extent of integration was felt to on an individuals' commitment to learning and getting knowledge.

3. Boundaries and connections between the conventional AKS and the agro-ecological knowledge system

The following two questions (and sub-questions) were considered in two groups:

Group 1 : To what extent are there boundaries between agro ecological (AE) KS and conventional KS ?

Is there a separate AE knowledge system?

- Yes there is but it is not a single AE KS but a number of AE KSs—the distinction between AE and mainstream KS is more blurred than it was 20 years ago
- Are they different KSs or different value systems? It was agreed that one interacted with the other
- KSs want the same outcomes but have different policies, ways of achieving outcomes
- Part of the division is due to the education system in farming e.g. env courses are taught separately from agricultural courses at agricultural colleges

Can the knowledge system be thought of as insular? Entrenched?

- There are also boundaries within systems e.g. dark green and light green within the green community; and in the transition movement there is divide between those 'on the ground' and those 'in the middle' who think in a different way.
- Within boundaries views are reinforced, this is exaggerated case when people are not listened to, or are criticised, as they became defensive and more insular and entrenched

Is knowledge accessible -easily communicated to those outside the KS? Is language or terminology an issue?

- Language and terminology can be an issue and be a barrier to communication and understanding , sometimes perception (due to misunderstanding) of difference is greater than the reality
- Facilitation and understanding is needed is boundaries are to be bridged

Is knowledge thought about differently?

- The knowledge required by AE is different from mainstream agricultural knowledge
- AE knowledge is generally less valued amongst those in the conventional system
- It was noted that organic farmers will still have the knowledge they had as conventional farmers before they converted

Is knowledge protected (available only through payment or membership) or freely shared?

- Ownership of knowledge – there is a spectrum from companies who patent seeds through to those who share knowledge freely in the food justice movement, with academic knowledge in between which is not always accessible

Group 2: what connections are there and at what level do they happen?

Is there an AE knowledge system?

- Discussions implied an AE system of sorts, although not that well structured, more a network of names than an identifiable system/structure. In addition there is not a common channel to disseminate information - “get message around”, no common magazine (like Farmers Weekly), nor conference, so it is rather sporadic.
- Agroecology Alliance - Patrick Mulvaney from “Practical Action” – policy advice (launched at the Oxford Real Farming Conference) –a loose collection of people/ organisations/groups UK and internationally based with similar interests (including Organic Grow. Alliance, Parliamentary group on Agro-ecology, PFLA)

Are there formal/informal connections at individual or institutional level?

- Yes, although some time was spent listing obvious connections as follows:
 - Real Farming conference
 - Organic Growers Alliance –
 - Biodynamic farming network
 - All Party Parliamentary Group on Agro-ecology (APPG) - this group does link with conventional farming. It is creating an interface, working as a boundary spanner. It is trying to bring balance to the debate that informs policy re. CAP, etc.
 - At other conferences very often connections are not that evident –token speakers at conferences (conventional speaker at agro-ecology and vice versa), there is still quite a divide in the main. Overall the division between conventional and agro-ecological is still very visible but there are some boundary spanners occurring at various different levels.
 - Policy (thanks to lobbying as well) is still very much pro-conventional and there is sense of securing that status. There is a particular view point maintained within the conventional sector, also in the way how people are appointed and whether they share that viewpoint. When policy is involved it tends to be more divided, but research events, events that are to do with farming- there is room for discourse, wider views, more” mixed ideas”.
- There are some areas where there is cross-over:
 - e.g. research disciplines / conferences that are more academic – RGS-IBG was mentioned. Joined projects - for example ADAS teaming up with Grow Organic
 - Agri-chat – Twitter discussion forum where sometimes conventional and agro-ecology are discussed. Oliver Dowding chairs the Organic Working Group of the NFU. On Agri-chat discussing GM.
 - Royal Agricultural Society – (very conventional) making moves to talk to Helen Browning from Soil Association more. Recognise things that conventional sector can learn from organic sector, they would not embrace the “whole package” but would choose- cherry pick. There is some cross-fertilisation going on.
 - AssureWell - now working across the board (towards consistent message)
 - Regen Ag - re. Education and training at the producer level are crossing boundaries. They try not to develop prejudices with the label and be accessible.
 - Organic farm walks are open to all.

- Individual ag. consultants often straddle boundaries.

Level of connections

- Can be joint research activities and training programmes e.g., Future Farming programme

Importance / relevance of KS to AE

- They are not covering the same ground
- Although it was suggested you can learn from each other – they are different systems with different perspectives
- Examples: Regenerative Agriculture – have limited resources and is run via courses (e.g. Holistic planned grazing); financial side which often draws people from both sides in - this is an important bridge, there is an “issue” spanner, rather than personal spanner, that brings people together. There is a triple bottom line incorporated within RegAg- people, environment and productivity.
- Organic AssureWell - working with Red Tractor

Can the conventional KS meet the needs of the AE?

- No. There are different belief systems
- For many in the agro-ecological system the content of the AKS may need modification –the AE community does not respond well to types of AKS structure. “Get out into the fields”.
- The language of conventional KS is putting a lot of people off.
- Some conventional research can be helpful and relevant for agro-ecology and organic farming
- One needs positive intention and direction to farm ecologically

Does the conventional KS need AE innovation?

- ‘Yes!’ But they won’t admit it’.
- It was argued that you need a positive intention to want to find out about agro-ecology
- Some felt agro-ecology is starting to be valued more (appearing in lecture courses, for important)
- It seems it is becoming more important but often ‘those in the conventional system won’t admit it – There is some cherry picking going on - some ideas from agro-ecology are taken up but the full idea / concept is not embraced
- Farmers – especially small scale farmers –are having to look for alternatives so are looking towards AE- the ‘spanner’ for connection may be economics – farmers will adopt / listen if it helps to make the farm enterprise more financially viable
- Demonstrating that practices work on the ground is a starting point for bridging

4. Forces enabling and forces constraining connections between the agroecological knowledge system (s) and the mainstream knowledge system

A Force Field Analysis was undertaken by participants. Individuals suggested enabling and constraining forces for connecting the agroecological knowledge system(s) and the mainstream knowledge system. The central proposition (rated at 0) was that the two KSs could connect and operate synergistically to achieve sustainable agriculture. Participants identified the force they considered important on a post-it, rating its impact on a scale of 1 to 5 (-1 to -5 for constraining forces), and added it to a large chart. All the comments are shown in Table 1, each comment is placed in a table cell according to its rating on the top axis (the position of the first word of the comment denotes the rating). Post-it comments have been grouped together according to theme.

Table 1 Force Field Analysis: Forces enabling and forces constraining connections between the mainstream KS and the agroecological knowledge system

Forces constraining						Forces enabling				
-5	-4	-3	-2	-1	0	1	2	3	4	5
market competition economic drivers						food consumer movement			market competition	
privatisation of knowledge looking for a technical silver bullet research funds skewed towards high tech research agendas, 'calls' short term funding with 'strings'						agri-env policy programmes payments for ecosystem services soil protection legume/animal manure husbandry				
belief systems allegiance allegiance image credible knowledge						positive farmer behaviour change and sharing information farmer peer pressure				
communication funding for facilitation						better research knowledge base			spanners	
urban rural divide focusing solely on agriculture failure, non consolidation of food production and people need greater recognition of the role of energy and fossil fuels						recognition of need for more joined up approach common challenges comon ground/common problems shared problems/goals				

Appendix

List of participants

Organisation	Attending	Position
Pemaculture Association	Andy Goldring	Coordinator/CEO
Regenerative Agriculture	Natasha Giddings	External relations
Soil Association	Euan Brierly	Research Manager
Soil Association	Jennifer Jamieson	Senior Project Officer (Animal Welfare)
Pasture Fed Livestock Association	Dave Stanley	Farmer
Pasture Fed Livestock Association	Harry Greenfield	Coordinator of the All Party Parliamentary Group on Agroecology
ProSoils, Aberystwyth University	Heather McCalman	Senior extension officer
South West Agricultural Resource Management (SWARM)	Stephen Roderick	Project Manager SWARM HUB
Consultant	Brian Angell	Specialist in agricultural extension, knowledge exchange
Gloucestershire Farming and Wildlife Advisory Group	Jenny Phelps	Farm Conservation Adviser
Centre for Agroecology and Food Security, Coventry University	Julia Wright	Deputy Director
Organic Research Centre	Katherine Leach	Senior Livestock Researcher
Bristol Veterinary School	Claire Weeks	Senior Research Fellow in Animal Welfare
Consultant	Luppo Diepenbroek	Facilitator to Tamar Valley Organic Group & EO of Soil Gener8ion Ltd



SOLINSA
Support of Learning and Innovation
Networks for Sustainable Agriculture

Agricultural Knowledge Systems In Transition:
Towards a more effective and efficient support of Learning
and Innovation Networks for Sustainable Agriculture

solinsa.net



Agro-ecological and conventional food production knowledge systems: making the connections to enhance innovation and learning

Workshop Programme

24th April, 2013

Venue: Bordeaux Quay, Bristol

www.bordeaux-quay.co.uk

10.00 Arrival and coffee

10.30 Outline of the day, aims of workshop, participant introductions

10.45 Insights from the SOLINSA project

11.00 Knowledge exchange- sharing experiences

12.00 Knowledge needs for sustainable agriculture

13.00 Lunch

14.00 Identifying boundaries and fostering connections between knowledge systems

3.15 Finish