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Accountability, Sustainability and Society

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**Developing the Welsh organic sector:
Knowledge sharing and learning processes**

Dr Selyf Morgan



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**Developing the Welsh Organic Sector:
Knowledge Sharing and Learning Processes**

A Report prepared by Dr Selyf Morgan

Abstract

This paper follows research on how full-time family farmers learn about organic farming in Wales. The study surveys the sources and the support services used by farmers: as they made the decision to convert; during conversion; and as they became more proficient organic farmers. Whilst there are potentially extensive networks of knowledge sources available, organic farmers continue to be reliant on their own initiative, and show preference for learning from peer groups. However, farmers in the study also show differing expectations of organic farming, which is reflected in the ways that they learn about the system, and farmers' learning processes are shown to be influenced both by their attitudes and motivations to business, as well as to organic conversion.

Differentiation among organic farmers also indicates the differential 'framing' of organic farmers, organic agriculture, and sustainable agriculture in general. Such framing, and farmers' response to it, affects the development of organic farming, and indicates how farmers and others act as co-producers of knowledge about organic agriculture. Interaction between organic and conventional farmers also shows potential to produce hybrid farming practices, the development of which may have implications for policy ranging from agri-environment to climate change mitigation and adaptation measures.

The study explores the ways farmers interact in associations, analysis of which has made use of the Community of Practice (CoP) framework to explore social learning processes in agriculture. Understanding social learning processes is of general interest in extension practice, and this paper is, therefore, relevant to those working on extension methods and learning processes in agriculture, as well as to those interested in the development of organic and other alternative or innovative practices in Welsh agriculture.

Keywords:

Organic Agriculture; Farmer Learning; Social Learning; Communities of Practice

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Executive Summary

This report is based on a PhD research programme, conducted in two parts, of the ways that full-time family farmers learn about organic farming in Wales¹. The study surveys the sources and the support services used by farmers in learning about organic farming: as they made the decision to convert, during conversion, and as they became more proficient organic farmers. The study also explores the ways farmers interact in associations, analysis of which has made use of the Community of Practice (CoP) framework to explore social learning processes in agriculture.

Conversion to organic farming became a mainstream option for farmers towards the end of the 1990's, a period during which most of the participants in this study had converted to organic farming. Farmers have since been able to access a growing range of documentary support material, and advice from a number of agencies has been more readily on offer. However, whilst there are potentially extensive networks of knowledge sources available, organic farmers continue to be reliant on their own initiative, and show preference for learning from peer groups.

Farmers in the study show differing expectations of organic farming, which is reflected in ways that they learn about the system. Farmers' learning processes are shown to be influenced by their attitudes and motivations in regard to both business, and organic conversion. These two sets of attitudinal and motivational categories may be mapped onto each other, although to show the correspondence definitively requires more detailed fieldwork and analysis.

Differentiation among organic farmers also indicates differences in the ways that organic farmers, organic agriculture, and sustainable agriculture in general are regarded by actors (not least conventional farmers) with whom organic farmers interact. Such differential 'framing', and farmers' response to it, affects the development of organic farming in Wales, and indicates how farmers and others act as

¹ The study was based on work conducted in Wales between 2002 and 2005, supported by funding from the Economic and Social Research Council and the Welsh Development Agency. The report represents the experience of farmers at a particular period, and whilst circumstances have changed, many of the processes that are described in this report will continue to be relevant to understanding how farmers learn.

co-producers of knowledge about organic agriculture. Interaction between organic and conventional farmers also shows potential to produce hybrid farming practices, the development of which may have implications for policy ranging from agri-environment, for example in the development of the more integrated support system of Glastir, to climate change mitigation and adaptation measures.

The study provides an initial use of the CoP approach to researching social learning among farmers, and this approach may be developed further and applied to associations of farmers in a systematic research project. Understanding social learning processes, whether by use of the CoP approach or by network models, is of general interest in extension practice. This report is, therefore, relevant to those working on extension methods and learning processes in agriculture, and those interested in the development of organic and other alternative or innovative practices in Welsh agriculture.

I. Introduction: Rationale and Structure of the Study

This report is based on a research study, conducted in two parts, which examined how full-time family farmers learnt about organic farming in Wales². Initially the study was organised as a general survey of the sources and the support services used by farmers in their process of learning about organic farming. This survey was based on the experiences of a sample of farmers from three areas in Wales, and these groupings provided the basis for the second part of the study, namely to investigate social learning processes about organic farming.

Previous work carried out at Cardiff University had explored organic food chains and the development of innovative and quality driven approaches in the agri-food sector (Banks, 1998; Banks and Marsden, 2001). One of the key conclusions from those projects, conducted at a time of relatively low levels of financial support for converting farmers (see Lampkin et al 1999) was that policy concerns were focussed on the financial barriers to conversion and did not pay sufficient attention to other barriers that farmers encountered as they considered converting to organic farming (Morgan and Murdoch, 2000). A significant barrier to the development of organic farming related to creating and exchanging knowledge about organic agriculture, affecting farmers as well as other actors in the agricultural sector³. Fieldwork suggests that learning processes are different in organic to those in conventional farming. In the latter system a bias toward a linear top-down process of information transmission, from expert to farmer, is influential. In contrast it seemed that organic farmers had to be more active and more self-reliant in learning about organic farming. According to this view organic farmers blend their existing knowledges about farming with expert knowledge on organic agriculture, and become active partners in their own training.

The study initially set out to map the ways by which organic farmers in Wales acquired their knowledge about organic farming, as they made the decision to convert, during conversion, and as they became more proficient organic farmers (see Box 1 for the formal research questions). The study focussed on established conventional family

² The study was based on work conducted in Wales between 2002 and 2005, supported by ESRC CASE funding and augmented by the Welsh Development Agency.

³ This may be illustrated at one level by comparing the amount of R&D support that organic agriculture received (from the private as well as public sectors) in comparison to conventional agriculture.

farmers, and so filtered out those farmers who were either deemed to be hobby farmers (deriving their main income from sources other than agriculture) or those individuals who were inexperienced in the industry and were recent entrants to farming. Hence, farmers in the study were close to being representative of professional Welsh family farmers, who are dependent on the farm for the bulk of their income.

The study also focuses on the way farmers interact in associations and participate in processes of social learning. Hence, fieldwork became centred on three groups of farmers who were associated with each other in different ways. Analysis of these groups included the use of the Community of Practice (CoP) framework to explore the applicability of this approach in understanding how farmers learnt in such associations, and whether these associations could be said to constitute communities of organic farmers.

Box 1: Research Questions

The study addressed the following research questions:

1. *How do farmers in Wales learn about organic agriculture?*
2. *What are the motivations of, and influences on, Welsh family farmers in making the decision to convert to organic farming, and what are their expectations in making the conversion?*
3. *Are there different categories of organic farmer?*
4. *How do farmers engage in processes of social learning about organic farming?*

II. Framework for analysis

The framework for analysis is based on an economic-sociology approach that considers a range of economic and societal influences on business and commercial decisions. The farmer as decision maker is seen to be guided by social processes as much as by rational economic calculation, and by value judgments, which are affected by personal⁴, local, and communal factors. Together, value judgments and personal

⁴ Personal factors included here are habits and routines of work, and of thought, which are specific to individuals, and dependent on the way that they have been developed.

history, mediate the individuals' response to crude economic signals (e.g. price movements).

Value judgments are directly related to farmers' attitudes toward farming, and attitudes in relation to organic farming in particular have been explored by a number of studies, (e.g. see Midmore et al, 2001, and Padel, 2001), and these highlight concerns about:

- Husbandry of animals and soil resources;
- The environmental and health impacts of farming practices;
- Financial or commercial motivations, which include survival and/or exploitation of new opportunities; and
- Personal concerns including workload and degree of control over work patterns.

Local conditions and personal context embed farmers' lives in their locality, in their work practices and in the structures of farming. Farmer attitudes and their embeddedness⁵ within local communities and within the farming sector contribute to the ways by which farmers learn and, hence, this study is concerned with social forms of learning.

a. Social Learning

'Social learning' is a term that applies to learning that occurs between individuals, individuals and groups, and between aggregations of individuals within groups. Interactions between individuals within groups include 'learning to fit' processes, in which individual roles and relationships are learnt. Social learning here includes behavioural learning that occurs during the process of becoming part of a group and learning about and adhering to group norms and perceptions as pre-requisites to participating in group learning processes (Brown and Duguid, 2001). It relates the identity of the learner to that of the group, and the emphasis during study of these

⁵ Being embedded also implies that the individual has knowledge of the ways of life of others in the industry and of other social and economic behaviours. They are supported and developed through the networks of personal relationships in which the individual participate (see for example Granovetter, 1985).

processes is on the interactions between members of the group, and on the conditions for building trust, exchange relationships, and commitment to the group (see for example Lave and Wenger, 1991).

Grouping and identity forming processes have been linked to the work practices and routines that individuals may experience, and to which they contribute in their working lives. The common interest and purpose of groups can be delineated on the basis of work practices, and these can appear in a variety of forms. Hence, individuals may be seen to be members of a group on the basis of their already acquired knowledge that fit the particular practice they share with other members of the group, to which they will contribute, and from which they learn. Work practice according to Brown and Duguid (2001) is critical in understanding the acquisition of work-place identity and, through that process, knowledge. Social learning in the context of places of work, therefore, rests on both a degree of common identity and of common activity.

b. Organic Farming and Social Learning

Differences in understanding what an organic system entails are apparent among farmers, and impinge on the ways that farmers regard organic farming and what they learn about the system. These differences may also impact on the way that farmers may engage in social learning about organic farming.

Whilst Regulation EC Reg. 2092/91 first established a legal definition of organic agriculture⁶ in the EU there continues to be debate about what organic farming entails and what organic systems should look like in practice (Dabbert et al, 2004; Campbell and Liepins, 2001; Goodman, 2000). On one view organic agriculture lies in complete opposition to the conventional agri-food system, requiring farmers and other actors to learn to operate within a different social as well as practical agricultural framework, and to build a new understanding of the agri-food system. However, conventional and organic farming systems practices overlap as, for example, more environmentally benign approaches, some inspired by organic farming techniques, are adopted in

⁶ This Regulation has subsequently been replaced by Council Regulation (EC) No 834/2007 on organic production and labelling of organic products.

conventional farming, and as industrial modes of farming practices are developed in organic systems (Guthman, 1998).

Increasing regulation, particularly on environmental grounds, has brought aspects of the conventional system closer to the organic system, but it can be argued that organic agriculture is by definition an integrated system that aims to combine environmental, social and economic elements. Whilst organic farming techniques may be incorporated into established farming systems, as an innovation organic farming is predicated on a whole-farm approach and not only on changes to particular devices, techniques or routines (Lampkin et al, 2002). Furthermore, for many farmers and other actors, organic farming is explicitly linked with the downstream activities of food processing, distribution and marketing, to healthy diets, and to working conditions and practices. Organic farming as an innovation, therefore, can be said to link farming knowledge with knowledge in areas beyond agricultural production. As such each part of the agri-food system contributes to the definition and development of organic agriculture⁷.

c. Communities of Practice

The Communities of Practice (CoP) framework is one approach to describing how learning occurs within groups of people associated by common practice (Wenger, 1998; Lave and Wenger, 1991; Brown and Duguid, 1991). They can be identified in any area of life, both in social and work contexts, although much of the original theoretical development of the concept relates to CoP within a working environment. Work-based CoPs relate to groups of workers who are engaged in similar work or use similar practice and for whom membership may be said to be an unconscious attribute; and which also has a means by which new knowledge created outside its own boundaries may be assimilated.

⁷ Knowledge about organic production methods was originally developed practitioners (Conford, 1988). In sympathy with the general movement for sustainable agriculture, Organic Agriculture has striven for an holistic approach to food production and consumption, bridging divisions between disciplinary knowledges, placing emphasis on local and traditional forms of knowledge and, hence, valuing the tacit and social components of agricultural knowledge. It is claimed to have been essentially non-hierarchical and reliant on practical and experiential ways of building knowledge. An expert research base to organic production has been developed more recently as evidenced by the growth of international bodies such as ISOFAR, OFRF and IFOAM.

The concept of 'Community' is important in this framework but, since it may be regarded and understood in different ways, must be treated with care. The term evokes attributes such as inclusivity, encouragement and indulgence, and is generally used with positive connotations. However, negative, exclusive and restrictive outcomes can also be associated with communities. Generally it may be said that a community consists of a collection of individuals that relate to each other and share or refer their activities (and practice) to communal norms.

The practice of community members and the structure of the community is in close relation to each other, one element (either practice or structure) interactively influencing the nature of the other. Wenger distinguishes a community of practice from other forms of community on this basis. He denotes three dimensions that describe the relationship between the form of the community and the practices that the community undertakes, and these have formed the foundations for much of the research done on CoP (see Box 2).

Box 2 Main Dimensions of a Community of Practice (Wenger, 1998)

- Mutual Engagement: defines the community as an association of individuals engaged in a particular practice.
- Shared Repertoire: encompasses those activities that form the basis of the core practices of the community and includes
'..routines, words, tools, ways of doing things,which has become part of .. practice'
(Wenger, 1998, p83)
- Joint Enterprise: follows as the community is built up, where community members help to create the enterprise and are mutually accountable for it.

III. Research Methods and Findings

Research Methods

Farmers in the study were interviewed individually, employing semi-structured in-depth interviews. Participant observation was also employed during meetings of farmer associations and during Farm Demonstration Days and Field Visits. Data from this fieldwork was analysed by employing structured software packages. Three groups of farmers were identified that were associated with each other in different ways. The recruitment of participants in two of the groups was through the group facilitators, whilst the third group was created through a 'snowball' method of personal recommendations⁸.

Research Findings

This section summarises the main areas of study, and are presented in three sub-sections:

- a. Categorising Farmer: in terms of the different categories of farmers based on business attitudes and on the motivation of farmers to convert to organic farming;
- b. Mapping how farmers learnt about organic farming: including formal and informal methods and networks; and
- c. Forms of social forms of learning: including a description of case studies of three associations of farmers analysed in terms of the Communities of Practice framework.

a. Categorising Farmers

Business Attitudes and Behaviour

In response to various challenges, farmers in this study have searched for alternative products, ways of working, and alternative systems of farming. These searches are shaped by farmers' general attitudes to farming, and by the way in which farmers

⁸ Further details of the research methods and structure of the fieldwork may be supplied if required.

regard their farms in business terms. On this basis they may be divided into three groups that as represented as in Table 1:

Table 1: Business Attitudes

Category Designation	Category Description
Diversifier	Active diversifiers who look to use the farm as a base for building a business that includes non-farming interests
Production	Focussed on improving quality/quantity of core outputs of the farm.
Holistic	Committed to maintaining the farm as a producer and highlight lifestyle and/or environmental concern

The categorisation was made on the basis of how farmers represented themselves during the study, and on the extent to which they have developed other enterprises and used their farms as the basis for off-farm activities. The categories are not strictly defined since activity is often mixed, and enterprises differ in scale and ambition. Ideas for alternative income streams had, in some examples, not yet been developed fully, whilst other farmers described failed attempts to develop enterprises. Other farmers report that they had not attempted any diversification of any kind and had no plans to do so. In other cases farmers were seriously reconsidering their farming direction and, for some, even their involvement in farming following failures in developing new businesses.

Categorising Converters

The reasons given by farmers for conversion to organic farming provide a different way of grouping to that based on business attitudes. Farmers were sometimes ambivalent about what are their primary reasons for conversion, and some could have been placed in more than one category as a result (see Appendix I for more detail). However, it was assumed that the reasons farmers gave most clearly during interviews are their main reasons for conversion, and that these shape the farmers' attitudes and commitment to organic farming⁹.

⁹ Secondary concerns were identified as those that were provided by farmer as supporting reasons for conversion. They were reasons that may not have been immediately apparent to farmers, but were identified during discussion.

Table 2: Categorising Converters

Category Designation	Category Description
Philosophical	Environmental concern and general attitude to farming considered most significant
Commercial-Opportunistic	Conversion support and current premium quoted as most significant without much reference to other reasons
Commercial-Long term	Commercial farming business reasons most prominent (including state support), with a mix of other motives e.g. Environmental, health, management, issues expressed as secondary concerns

Philosophically-committed Converters

All the farmers in the study begin with the understanding that their farms must be commercially sustainable, but the farmers included in this group made a definite commitment to the organic system for what they saw as its intrinsic worth. Environmental concerns were the primary reasons for conversion, founded on general interest in environmentally sensitive ways of farming, along with a general conviction about sustainable lifestyles and sustainable economic activity. These farmers were interested in conversion based on general attitudes to what good farming practices meant, almost regardless of whether conversion grants or premium prices were available.

Commercial-Opportunistic Converters

Farmers in this designation volunteered a mix of reasons for conversion, but appear not to be wholly convinced that the conversion will be in their best commercial interest in the long run. They had made a decision to convert because of the offer of financial and advisory support during conversion, the prospect of continuing state support thereafter, and either the actual, or strong expectation of, premium prices. On the whole they did not offer any philosophical beliefs about organic farming, and were prepared to consider converting back to conventional farming if commercial conditions were favourable or made it necessary. However, experience of the organic system has changed the attitudes of some of this group who had come to prefer the organic system, regarding it as a more enjoyable system within which to work.

Commercial Long-Term Converters

In common with the 'opportunistic' converters farmers in this group regard economic or commercial reasons for conversion to be the most important. However, they also give reasons that are related to longer term goals than simply current state-support or premium prices. They had identified that some change was clearly necessary to their farm business and the management implications of these changes were important considerations for these farmers. Whilst state-support and premium prices, are strong reasons for choosing organic, the farmers report that the changes entailed by conversion to organic were preferable to alternative solutions to their problems.

The organic system's management regime was regarded by these farmers as well suited to the characteristics of farms, and farmers calculated that conversion would not require big changes to existing practices. The changes involved in conversion were compared to the potential extra expenditure on farm buildings, equipment and other facilities (e.g. enlarged slurry pits, improved milking parlours); livestock numbers; and the purchase of quota that would be necessary with more intensive conventional systems. Expansion in the farms' output as a conventional farm also implied an increase in workload and/or a manpower. In addition to these management considerations, the choice for organic conversion often rested on achieving a better work-life balance, and the organic system was thought by these farmers to offer better control over workload and over day to day decisions about farming: factors that these farmers felt were valuable.

Summary of Farmer Categories

Whilst the categories are 'broad brush' descriptions, where many of the farmers may be placed in more than one category, the study suggests that there is some agreement between motivations for conversion and general attitudes to farming. Those farmers that are seen to have a 'Philosophical' interest in organic farming are generally those that have a 'way-of-life' attitude to farming. They describe their motivations and attitudes in terms of an interest in improving the farm, but with a definite interest in the ecological diversity and environmental sustainability of the farm, and in attaining a balance between working life and other activities and interests (represented by the 'Holistic' categorisation). The differences between farmers in the two categories of 'Commercial-Opportunistic' and 'Commercial Long-Term' are differentiated on the

basis of their apparent commitment to conversion, but neither of these categories wholly map onto any of the three categories of business attitudes. The main reason for differentiating two ‘commercial’ categories is due to the attitudes toward the commercial opportunity offered by organic system, with the ‘Opportunistic’ converter displaying a less stable commitment to the organic system.

For the majority of farmers (i.e. those who had not converted for philosophical reasons), the commitment to organic farming is uncertain. However, particularly in the cases of the ‘Long-Term’ commercial converters there is evidence to suggest that these farmers have enough commitment to continue as active learners in the organic system, and that even for the ‘Opportunistic’ farmers, prolonged experience increases confidence and appreciation in the organic system.

b. Farmers as Individual Learners

The fieldwork conducted with farmers in the study provided an initial mapping of the formal and informal methods and networks that were used in learning about organic farming. The survey also indicated the ways and the degree to which farmers found that they had to modify their networks as they became organic farmers.

Formal, Expert Advice and Information Support

Farmers took advantage of a range of formal sources of information (see Table 3) about organic agriculture, and used them in a number of different ways. Before conversion farmers were concerned to understand whether conversion would be a suitable option for their farms from both commercial and agricultural standpoints. Initial support from advice organisations focussed on ascertaining suitability and explaining the process of conversion and the system of support available.

Table 3: Formal Sources of Organic Information

Source	Type of Support
The Organic Farming Scheme (OFS)	A day and a half of free advice about conversion
The Organic Centre Wales (OCW)	General advice and information; information from sources

	of research
Farming Connect ¹⁰	Open Days at organic farms; demonstration farm visits; organised organic discussion groups
Organic Certification Bodies (OCBs)	Guidance on regulations and general advice
Dedicated organic research organisations	e.g. Elm Farm Research; the Henry Doubleday Research Association (HDRA)
University agricultural departments and agricultural colleges	Limited full-time courses; evening courses and short courses
The Institute for Grassland and Environmental Research (IGER)	Research information and support at Open Days/ discussion groups
Food processors, packers and retailers (Dairies and supermarket chains)	Market-oriented and product-specific advice relating to organic food
Organisations giving advice on agri-environmental schemes (e.g. Coed Cymru, CCW)	Particularly interaction of agri-environment schemes with the organic scheme

The process of conversion was seen by farmers as being relatively straightforward, and the information and advice offered through formal channels such as the OFS conversion advice scheme was thought to be useful. However, there was some frustration that a more comprehensive advice and information service, at the initial stages of conversion, was not available. Improvements suggested by farmers included providing explicit introduction to relevant knowledge networks, both formal and informal, including greater opportunity for farmers to meet with their peers, and a more active facilitation service. The facilitation service suggested by some farmers would comprise of a case-work based service to look after the development of individual farmers, provided by general advisers who were also able to tap specialist expertise as and when it was needed¹¹.

The development of sympathetic peer networks and continual focussed advice is a prominent issue for farmers. Whilst there may be a range of learning strategies employed by farmers, interaction with peers is a common and essential element that

¹⁰ Farmers were not always clear which organisation actually offered the services that were available and there was some confusion between the OFS, OCIS, OCW, IGER and Aberystwyth University, and with Farming Connect which was often the co-ordinating body that contracted other organisations to provide extension advice

¹¹ This appeared to be similar to the kind of service that farmers believed was provided by ADAS during its period as a state advisory service.

contributes to, and reinforces the information and knowledge acquired from a variety of sources.

Regulation of the Organic System: Learning by the Rule Book

Certification was central to the conversion process for the farmers and the organic certification rule book was the single most important piece of codified knowledge that they could access, both during conversion and in the period during which they became practicing organic farmers. Most of the farmers used the rulebook as something akin to a formal curriculum for their organic education, which together with the advice services of the Organic Certification Bodies (OCBs) helped to identify the parameters and the limits of the system¹².

As the farmers became more experienced they entered a dialogue with OCB officers about the interpretation and application of rules. Farmers drew authority from their own expertise as practicing farmers and from veterinary advice. However, they were also prepared to accept that they were going through a process of learning during which some of their own beliefs were changed and new expertise gained. It was also accepted by farmers that OCBs adopted an enabling rather than a sanctioning approach, allowing the farmers to work through short term difficulty with the regulations and the organic system by the use of temporary derogations.

The way that the organic certification system operated illustrated that rather than being well-defined and tightly prescriptive, the system appeared to be accommodating to farmers who were in a process of change, and contained subtleties that the farmer could exploit, as with any other regulatory system. Alternatively, interaction between farmers and OCBs could be viewed as allowing farmer to participate in develop knowledge about the practical application of organic agriculture. It could further be argued that the attitude of individual farmers to these alternative ways of dealing with the regulatory system reflected their general approach to farming. The farmers' choice of OCBs¹³, and farmer attitudes to the objectives of organic regulation, expose some

¹² Some farmers found dealing with organic rules similar to the experience of agri-environmental schemes such as Tŷr Gofal, which were also useful learning processes.

¹³ At the time there were 13 possible OCBs available, although the big two (Soil Association and the Organic Farmers and Growers) were predominant

tensions within the organic sector in the UK that reflect differing conceptions of organic and sustainable farming systems.

Self-Directed Learning

To comply with organic certification standards farmers have had to become more active in sourcing relevant material. Few complained that it was difficult to find written material and guidance¹⁴ but farmers' interest in accessing material on organic farming varied. When asked about their own information gathering and reading activity, farmers expressed their preference for learning through discussing and comparing experience and practice with other farmers or professional advisers.

However, conversion to organic farming had provided a focus for some farmers to revisit and confirm basic knowledge about farming. In a number of instances, farmers suggested that they had to reconsider what had been taken for granted, and in the effort of learning about the organic system existing farming knowledge and assumptions had been challenged. Self-directed learning also enabled farmers to improve their judgment in respect of advice from commercial actors, consultants and agricultural colleges.

Formal Agricultural Education and Organic Courses

Most of the farmers had attended a formal general agricultural course at a local college, and some had worked to degree level at university. General agricultural courses taken offered little if any training in organic principles, and so some farmers in the study had attended evening courses in organic agriculture either during or after conversion, or had attended one-off day courses at college¹⁵. The participants saw these courses as being useful in bringing individual farmers together in a way similar to Open Days and Farm Walks, allowing them to make new contacts with their peers and to extend their networks¹⁶.

¹⁴ Sources include the general farming press, certification bodies, the National Assembly (in the form of industry magazine 'Gwlad') and representative bodies such as the farming unions and the CLA. Material specifically related to organic agriculture is taken from the certification bodies, the Elm Farm research centre, or the Organic Centre Wales specialist monographs such as Organic Handbooks (e.g. the Organic Handbook published annually by the OCW) or even academic books on aspects of organic farming.

¹⁵ There has been uneven provision across Wales of organic courses, so not all farmers were able to take advantage of this possibility.

¹⁶ Some of these part-time courses had participants from non-farming occupations

Farmers in the study had some caustic remarks to make about teaching standards, the farming attitudes encouraged, and the general value of the courses that agricultural colleges provided. Farmers placed more store by their own skills and practical experience, and the knowledge of peers who worked with similar resources. More specifically, colleges were seen to have a tendency for a negative attitude, either explicitly or by implication, toward the kind of sustainable farming represented by the organic system. For these farmers, colleges seemed dominated by the influence of agro-industrial companies and recognised that many of their peers (as well as their parents' generation) were profoundly influenced by the agro-industrial practices encouraged in colleges. This viewpoint signifies an acute separation from some aspects of conventional agricultural knowledge networks, reinforcing the need to form new networks.

Open Days and Farm Walks

All the farmers in the sample attended Farm Open Days¹⁷, normally organised around some specific theme¹⁸, with farmers free to attend either organic or conventional system events. They are valued for their social function by both conventional and organic farmers, and serve as a relatively untaxing method of gathering information. Farmers are aware that there is no demand to contribute to proceedings and that they may act as passive participants. On a farm visit the farmer is able to make unobtrusive comparison, to discuss and listen to discussion on specific or common problems, and to draw conclusions on its applicability to their own situation. But such learning can also be unstructured and unfocussed, with corresponding limitation on effective learning. However, farmers maintain that they generally find such events valuable even if the main benefits come from private discussion between individuals.

Farmers generally recognised the limitations of many of the discussion or farm visit events on offer. They were also aware of 'extension fatigue', where they became overloaded with extension events and information. They noted that their learning requirements change and, hence, the relevance of the activities offered changes over

¹⁷ Farmers were not always aware of which organisation was responsible for organising many of the events to which they were invited. They were mainly organised by Farming Connect and attended by experts from IGER, OCW, CCW, ADAS, Coed Cymru, and the OCIS

¹⁸ For example, themes included the implications of developing an organic farm in conjunction with an array of agri-environment schemes; maximise environmental and biodiversity objectives; organic livestock husbandry; balancing enterprises on a mixed farm; and the specific requirements of managing organic hill farms.

time as their knowledge and experience of organic farming develops. Farmers became capable of evaluating meetings with reference to their own immediate needs and their own judgements of the standards and competence of the host farmer or the organisation running the event. They increasingly limited their attendance to specific events of most relevance and, if possible, to events with other farmers who are at similar levels of knowledge and interest, and/or have common objectives.

Advice and Support from Supplier, Consultants, and Other Actors

In addition to state-funded extension sources and dedicated organic support bodies, farmers obtained information from a range of sources, although some used virtually no sources of advice beyond the certification bodies and the OFS. Other sources included farming unions, private agricultural consultants, agricultural suppliers such as seed and animal feed merchants, and veterinarians. Farmer-representative organisations, such as the farming unions and the CLA, did not appear to be significant sources of advice for the organic farmer, and many of the other sources were seen as useful for advice about farming in general as opposed to being specifically related to organic farming. Whilst general farming advice was often relevant to organic farmers, conversion to organic shifted the significance of the advice.

Some of the sources of advice, particularly seed merchants, became more important on conversion as the changes of practice that the organic system entailed directed the farmers to asking different questions and demand a different level of service from their suppliers and other contacts than they had done as conventional farmers. The seed merchant becomes an important actor in the organic farmers' network as the focus of the farmers' interest moves from fertiliser and herbicide input to the inherent characteristics and sustainability of grass leys. The preparation of leys, nitrogen fixation, stocking and rotation regimes become the new references for the farmer, and knowledge about and the choice of seed mixtures became important. Seed merchants (along with the advice from extension agents such as IGER), are the principal sources of information about these issues.

Seed companies, however, were seen to have been slow in improving their knowledge of organic seed mixes, and farmers in the study had, therefore, to find specialist

organic supplier or to develop their own knowledge. In many cases farmers had initially to depend on their own resources in learning about seed mixes that would be suitable to their own specific soil and drainage conditions. Some farmers went about this task in something resembling a scientific attitude, by experimenting with seed mixtures and building up an understanding of the rationale and justification for the choice of seed mixtures. However, not all farmers had re-seeded or re-vamped their grass lays, reflecting differing requirements and priorities on different farms.

A few of the farmers used the services of agricultural consultants for advice and guidance on their farming systems, with most using consultants for specific one-off decisions related to their farming systems. In addition to consultation on practical farming decisions, consultants were also used for business, financial advice, and on grant applications. However, private consultants did not feature prominently as sources of advice on organic agriculture among individual farmers, and those farmers who had been using consultants appeared unimpressed by the general agricultural consultant's knowledge of organic farming. They found in some cases a lack of sympathy with the system suggesting, that at the time of these conversions, expertise and advice on organic farming was not widespread. A similar lack of knowledge on the part of financial consultants was also apparent to farmers, and this ignorance about organic systems, and what they entailed, could affect the financial advice that was offered. Later converters found dedicated organic consultancies available but the fees charged by consultant can be high.

Similarly, most of the farmers in the study found that veterinarians who had specialist knowledge about organic farming systems were not common. Veterinarian practices did sometime contain an individual who had more sympathy or knowledge about organic methods, but farmers did not seem to consider the deficiency to be a great problem. Veterinarians learnt about organic requirements on a case by case basis, and became involved in the negotiation of practice between farmers and OCBs. Their use by the farmer changed as the focus of livestock health moved to management rather than prevention. Although not prescribed by organic regulations, some farmers also considered using homeopathic approaches, and faced similar problems in finding veterinarians or other individuals who may have expertise in this area.

Information from the Market

Processors in both meat and dairy sectors organised meetings to attract farmers to convert to organic farming. These meetings gave information about the organic market, and advice on the kinds of farm that would be suitable for conversion. This information was similar to that received from other sources but was made more compelling by the direct link to the market. For many, if not all farmers the basis for serious consideration of organic farming was commercial information, and processors appeared to be assuring farmers of a buoyant future market.

As the supply of organic milk exceeded demand the number of meetings to attract dairy farmers to convert declined. They were replaced by meetings in which more experienced 'mentor' farmers and invited experts led discussion about improving performance. These meetings were organised for affiliated producers and so were not open to those organic farmers who had failed to obtain organic milk contracts. Those farmers, however, still had access to some form of mentoring system from the conventional milk processor that they supplied.

During the period of the study organic dairy farmers became disappointed by the slow development of the market, and particularly because promised high premium prices were not maintained. Farmers felt that they did not have independent advice on market development and, to some extent, thought that they had been misled by over-inflated forecasts. Although aware of the general difficulty in the dairy industry, where any kind of premium and support were welcome, farmers were also aware that they did not have the knowledge to adequately assess market forecasts.

Processors were not the only ones blamed for the lack of development in the market¹⁹, and the government (and to some extent the Organic Certification Bodies) were implicated by setting unrealistic targets²⁰. Government targets for the organic sector's share of farming, as expressed through the Organic Action Plans, were taken as strong

¹⁹ Meat producers did not appear to be as concerned that the market would be oversupplied. A possible cause for the lack of apparent concern may be due to the legacy of the Foot and Mouth disease and its effects on supply and demand for meat. The fieldwork for this study had been conducted a year or so after the disease event.

²⁰ The government set a target of 10% of farmers to be organic by 2005. This also roughly equated to the share of agricultural output to become organic.

support for the sector, which along with conversion grants and continuing support payments, had encouraged farmers to commit themselves to convert.

The dairy industry experienced the most acute problems, partly exacerbated by the inherent inflexibilities of the sector since production is, in industrial terms, a continuous flow as opposed to the discrete bulk production of the meat and livestock sectors. The market position of livestock farmers had improved with the development of supermarket producer clubs²¹, which along with the farmer-led producer groups were able to offer farmers new and more direct channels to the organic market, and with that, better and more direct market feedback. Livestock markets have traditionally been a source of some form of feedback on performance, but this can be limited, particularly for organic farmers since the number of organic livestock markets is small. As with dairy processor mentor groups, farmer-led livestock producer groups and supermarket clubs are able to offer guidance based on a more accurate understanding of what the market demands in terms of meat quality²².

In each case, however, farmers were working with specific processors (whether a particular supermarket chain or milk processor) whose support was directed toward meeting their own procurement needs. Farmers' learning was being directed toward producing what specific market actors deemed as important, whether in terms of food quality or business management. Whilst this type of relationship is not particular to the organic market, organic farmers have to deal with extra constraints because the size and scope of the market is more limited than is the case in the conventional market. Livestock farmers were hampered since buyers were often prepared to pay organic premium prices for only parts of the carcass. For dairy farmers the glut in organic milk supply had made organic milk contracts more difficult to obtain, and without such a contract they had to be able to manage an organic system without receiving premium prices for their product.

²¹ At the time of the study these were run by Waitrose, Asda, Tesco and Sainsbury

²² For example, livestock farmers had opportunities to learn techniques such as the meat grading to ascertain the value of their stock.

c. Farmers as Social Learners

Peer relationships and supportive networks were important in farmers' learning processes. These networks constitute the basis for social learning among organic farmers. In some cases social learning is informal and serendipitous, whilst in others farmers learn through participation in associations and through organised activity with their peers. The following sections survey some of the main forms of social learning experienced by farmers in the study, and this includes one-to-one relationships with parents and peers. Social learning within groups of farmers is also included and the section is completed by considering case studies of three groups of organic farmers to which the Community of Practice framework was applied.

Learning from Parents and Peers

The embeddedness of farmers in farming and in their locality helps to form their identity and understanding of agriculture. Inter-generational learning is the basis on which farmers in the study build much of their agricultural knowledge, whether derived from members of the family or from other local farmers. Parents were generally seen as the first reference for local knowledge by interviewees in this study, either through direct continuing consultation or through habits and attitudes that had been passed on. However, the education that farmers received from this source produced ambiguous influences. It contained elements which could be drawn on to positively support a decision to convert to organic farming, such as the near-organic status of many of their existing practices, but also highlighted the risks entailed in changing well-understood practices that offered security (for example the ability to resort to fertiliser application in poor growing seasons).

Conversion could create scepticism and claims that it represented a return to a less efficient form of farming. In some instances organic farmers also encountered resentment based on their ability to attract premium prices in addition to government support payments. Farmers refer to the kind of agro-industrial training and the strength of the 'conventional' farming system to account for much of this reaction. However, farmers also noted that as organic farming has become more established some cross-fertilisation occurs between organic and conventional practices, allowing

farmers to maintain links with their previous networks²³. Even so, whilst some interaction on a social and, to some degree, professional level continues conversion to organic does result in some degree of separation, and farmers found that they had to look for alternative and/or additional peer relationships.

Learning from Organic Exemplars

The influence of experienced local organic farmers, whether they were individuals who were known personally or by reputation, was important to the majority of the farmers in the study, with most farmers having taken advice from local exemplars. A number of farmers noted that they were impressed by the capabilities of organic farms, whether local or more distant, principally after making visits and judging for themselves the standards, level and quality of output that could be achieved. The existence of well-regarded exemplars is important in demonstrating in practice what the change to organic entails, and offers the farmers a concrete vision of their own potential futures as organic farmers.

However, whilst reference to experienced organic farmers was generally regarded as a way of validating and confirming the decision to convert, the influence of exemplars was not always positive. Earlier converters found few farmers from a background similar to themselves (of traditional family farming) and instead found some evidence to support a prejudice that organic farming was pursued by people with unrealistic attitudes, who were unlikely to offer a suitable model for small family farmers in Wales. This judgment was based on social and behavioural basis as well as on farming competence, but those pioneers who survived gradually gained credibility, particularly since they had survived during a period when there were no support payments available for organic agriculture.

Farmer-led Associations and Discussion Groups

A range of farmer-led associations and discussion groups were used by farmers, as illustrated in Table 4. Since most of these groups are not generally organised specifically for organic farmers they are limited as sources of organic advice. However, organic farmers indicate that the interaction between organic and conventional farmers in these groups can be mutually beneficial, and were able to

²³ Converting farmers are also aware that reversion to conventional farming is relatively easy, providing a safety-net if conversion was not successful

provide instances where conventional farmers have been able to adopt some practices developed on organic farms. By participating in these mixed groups organic farmers are able to maintain and develop their knowledge networks with conventional peers.

Farmers attending specifically organic farming groups saw a change in the type of farmers that were converting over the period of this study. Such a change was making it more difficult for some of the organic discussion groups to maintain a coherent identity. Different types of farmer had differing goals and aspirations, with larger farmer being more likely to be interested in organic farming for commercial reasons as opposed to the more philosophical commitment of some of their smaller and longer established organic farming colleagues.

Table 4: Fora for Farmer Discussion and Social Learning

Farmer Associations	Main Characteristics
Former Cambrian Organic Groups (COG)	COG was an association of organic farmers that was supplanted by the development of the Farming Connect (FC) service. Some local groups survived and were composed mainly of farmers with smaller farms and who were more philosophically inclined in comparison to later converts and those involved with other associations.
Farming Connect Discussion Groups	Dedicated state-supported organic discussion groups.
Grazing Groups	Local Grazing Groups aim to provide comprehensive discussions of all aspects of the farmer's farming practices, business objectives and working life. They maintain a membership policy in favour of small, close knit and coherent group. Those available to farmers during the study were mixed conventional and organic groups.
Grassland Societies	The Grassland Society groups are generalist in nature and regarded as traditional in their outlook on farming, although some appear to offer greater opportunity than others as learning fora
Processor and Supermarket - sponsored groups	Mentor groups are sponsored by processors but members take a leading role. These meetings are well regarded by the farmers, and act as social learning events where farmers have the opportunity to learn from their peers.

d. Case Studies of Farmer Associations

Three associations of farmers were identified during fieldwork to illustrate social learning among different kinds of farming groups. These groups were labelled A, B, and C (see Table 5). These groups were analysed to determine whether their behaviour may be considered in terms of the Communities of Practice (CoP) framework.

Table 5: Participating Farmers and Association Types

Group	Type	Main products
A	Farmer-led producer marketing group	Lamb, some beef and dairy
B	Farming Connect discussion group	Dairy, some lamb and beef
C	Informal 'neighbourhood' cluster of organic farmers	Dairy, some beef and horticulture

Group A: Farmer-led Marketing Group

Group A is a localised sub-group of a farmer-led producer group that offers a dedicated market channel to the organic farmer. Such local groups were set up as the parent group became more geographically spread during a period of expansion. Group A is coordinated by local farmers, who act as facilitators for group meetings and maintain links to the central production group. Members agree to supply an agreed minimum number of livestock for marketing through the central producer group and pay commission charges on sales. The parent producer-group organisation provides marketing services and market-information feedback to the members, and attempts to maintain member discipline in respect of prices²⁴. The central producer group also organises advice and discussion events for farmers (including external expert input) that focus on market and processor requirements as well as addressing topics of organic farm management.

Group A may be examined using the Communities of Practice (CoP) framework from two perspectives, which provide different ways to consider mutual engagement and joint enterprise. The first is a top-down view whereby Group A is seen as a subsidiary

²⁴ Farmers are free to also sell to other marketing channels, and in some cases may be tempted to sell at lower prices than those achieved by the producer group in order to move stock.

of the general producer group, while the second perspective is of Group A as a self-organising CoP.

The first perspective focuses on the parent producer group. Its structure, established as a collaborative venture rather than a formalised co-operative, is a joint creation of its founding membership, and is a result of negotiation between those members. New farmers undergo a process of learning about group norms and are expected to comply with group expectations. These norms and expectations derive from the initial *mutual engagement* between the ‘old timers’²⁵.

Producer group efforts to encourage more collaborative working practice between farmers is focussed on the adoption of *shared repertoires*. Adopting shared repertoires at a practical level may mean that some farmers would have to modify certain practices, for example the timing of the lambing period to allow the producer group as a whole to benefit from better market prices. They are performed in support of clear and defined *joint enterprise* for a ‘community’ that includes all the local producer groups (such as Group A) and their individual members. The Joint Enterprise of the group may be regarded as being to sustain a collaborative marketing group for organic produce, which also provides farmers with the opportunities to learn and improve their expertise in organic farming.

Members of the group are expected to accept a certain degree of group discipline in the process of building and maintaining a sustainable commercial entity. However, the relationship between (particularly new) farmer members and the producer group is loose, with relatively weak membership rules and undemanding financial commitment. The considerable expansion of the group has distanced farmers from the producer group core and from each other, making the fostering of mutual engagement and common identity more difficult to achieve than it may have been at the foundation of the group. The loose nature of the group requires constant reinforcement and maintenance of collaborative practices, where the central organisation is obliged to maintain a constant justifying dialogue with the membership to establish and reinforce mutual engagement in the joint enterprise. Without strong

²⁵ ‘Old timers’ is the term used for original members in CoP terminology

identity, commitment and participation, the producer group is more likely to act as a simple sales consortium rather than the focus for a CoP of organic farmers.

The second perspective considers Group A as a self-organising CoP, grounded on its role in being a point for contact and social learning about organic farming, and its role as a focus of association for local organic farmers. Mutual engagement is, thus to be seen as being locally produced, and may be achieved through emphasising local group-identity, built through frequent and direct contact (which facilitates the development of shared repertoire), and through mediating the individual farmer's relationship with the parent producer group and the channel it provides to the organic market. It is reinforced and maintained through personal commitment and interaction rather than by management effort. Similarly the farmers' joint enterprise is related to personal and local-group understanding of what organic farming practice entails, rather than primarily to the requirements of a collaborative marketing venture.

Both the parent producer group, and its constituent local groups such as Group A, are vulnerable to the diversity of individual farmer practices (which may be difficult to change and bring together), and to varying levels of commitment from its membership. The existing practices and behaviours of individual farmers are not necessarily in total sympathy with those that brought the original members of the producer group together, and may hamper the ability of the producer group to build up a coherent identity. Farmers within the group are members, to varying degrees, of other networks and in some cases of other producer groups (e.g. supermarket-led production groups), which compete for commitment from the farmers and contribute to the way that their farming practice and market knowledges are shaped. The influence of these other networks and relationships are brought by members into the producer group and help shape communal attitude to the joint enterprise of the group. These influences may be said to provide a challenge to the identity and integrity of the group, but they also provide channels by which new knowledge may be brought into the putative CoP.

Group B: Farming Connect Discussion Group

Group B is a discussion group supported by the state extension service Farming Connect, as part of its network of discussion groups and demonstration farms, and which in this case concentrates on improving farmers' organic production and management knowledge. Farmers are invited to join by the local facilitator who, hence, encourages *mutual engagement* by means of active management of the group as a social learning forum. The facilitator maintains relative homogeneity through restricting the membership of the group, recruiting farmers with similar types of farms from a relatively limited geographical area, and through encouraging the regular participation of its membership. Learning events and activities are focussed on understanding and sharing organic farming practices, and on building up an understanding of production techniques and of the organic market. These become *shared repertoires* of practice but do not extend to include communal commercial practice since the commercial actions of individual members do not impinge directly on the group and its activities. Hence, a *joint enterprise* defined in commercial or marketing terms is not a group objective. Rather the joint enterprise may be described as being to achieve a communal understanding of what organic farming entails through social learning activities.

Given its facilitation by Farming Connect the discussion group provides a relatively undemanding interactive environment (in communal terms), and the demands on individual members in maintaining group discipline is less than it may be for a more self-managing group. However, whilst group members are chosen and invited to join on the basis of apparent similarities, this does not guarantee an identity of purpose among members. Disagreement is present among members whose attitudes toward organic farming and running an organic farming business differ from each other. This is exemplified by different focus, for example between concern about the 'purity' of the organic production system in contrast to profitably managing and maximising the commercial potential of organic farming. Different attitudes affect the definition of a joint enterprise, and pose questions about the degree to which it might be possible to view the group as a sustainable and coherent CoP of organic farmers. However, to the extent that the group may retain a diversity of views about organic farming it succeeds in its role as a forum for social learning about what organic farming may entail.

Group C: Informal Neighbourhood Group

The third group, Group C, is a radically different group to either Group A or B. It is a collection of organic farmers associated by their geographical proximity and identified for their potential as a local neighbourhood community of organic farmers²⁶. It is a 'naturally occurring' group, not organised as a formal association, and there are no formal discussion or advice events by which to gauge communal commitment and identity. Any interaction between farmers that may be apparent within Group C is significant in demonstrating the extent to which such a neighbourhood group of organic farmers may exhibit the characteristics of a CoP.

Farmers in both Groups A and B choose to associate for specific reasons, and the degree of their commitment to the group depends to a large extent on what benefits they believe they obtain from being members. Group C farmers, in contrast, are examined on the basis of one-to-one interaction and on the aggregation of these interactions into a potential neighbourhood CoP. Whilst Group C lacks a formal space to meet, or organised events for discussion, farmers are well embedded in the locality, and direct one-to-one association between certain individuals does occur.

Communal interaction is, however, not intensive, evidenced by some farmers who declare ignorance of their neighbours' intentions to convert to organic farming. Whilst farmers become aware of the commonality of their practice in time, the level of social interaction in this neighbourhood has not translated into what may be observed to be a clear community that might qualify as a CoP based on the practices of organic farming. On this basis the level of *mutual engagement* found between the farmers in Group C differs radically from the other two groups. It is diffuse and fragmented and there is little sense in which *shared repertoire* may be developed or a common identity based on common organic farming practice constructed among the group. Where a close and 'natural' community might have been expected, local communal interaction centred on practice, was not apparent. The development of a CoP based on Group C appears blocked by the absence of a focus for the group (or neighbourhood community) of organic farmers that might develop as a community of interest or of

²⁶ It is worth noting that 'membership' of the group was constructed through personal references, by which it may be claimed that farmers have been 'chosen' for their involvement by their neighbours i.e. the snowball method of recruitment

common purpose with a recognisable *joint enterprise*. Rather than a practice-led community (let alone a CoP) the presence of this cluster of organic farmers appears to contribute not much more than diffuse background knowledge to the individual farmer, which may be useful only in providing local exemplars of organic practice.

The failure of a neighbourhood community to develop is not, however, based on the aversion of the farmers included to become involved in farmer association. Some of the farmers in Group C have sought other avenues of association using, in some cases, conventional farming discussion groups in preference to the potential offered by the local organic farming population, or attend other established organic discussion groups outwith the area. Such a situation indicates that rather than there being an aversion to association per se, some of the farmers in this area are more concerned to find others with similar attitudes and motivation. Furthermore, that the preferred association option for some farmers is a conventional farming group suggests that these farmers may not have made a wholesale break with the mentality of conventional farming, but have adapted their own practices to accommodate the characteristics of both organic and conventional farming systems. The compromise may indicate that the *enterprise*, for these farmers may be said to be incremental change based on narrowly focussed calculations of the needs of their farm businesses.

IV. Discussion

The study has described a number of ways that full-time family farmers learn, gather information, and share knowledge about organic agriculture. During the period covered by the study (2002-2005) the knowledge barriers to conversion were reduced and farmers were able to learn by accessing a range of written material, and find support from different kinds of advisory agencies, and from organisation that facilitate social learning. There are, therefore, potentially extensive networks of knowledge sources available to organic farmers. However, whilst support has been improved, farmers continue to be reliant on their own initiative, and the type of learning processes in which farmers participate may be related to their attitudes and motivations.

Farmers were categorised into three groups on the basis of their attitudes to farming: from active diversifiers, to production focused farmers, and to farmers who have a holistic and/or lifestyle approach to farming. This differentiation indicates the range of farmers who have converted to organic farming. Farmers in the study were also categorised on the basis of their motivations for conversion to organic. This categorisation also suggested three types, namely the philosophically committed, the opportunistic commercially minded farmers, and those with long-term commercial motivations for conversion. There are some indications that it may be possible to map the two sets of categories onto each other, although this kind of correspondence will need more detailed fieldwork and analysis to show definitively.

The categorisations indicate that conversion to organic farming was becoming a more mainstream option for farmers towards the end of the 1990's since new organic farmers could be categorised as shown. The new generations of organic farmers did not find that they were always in agreement regarding the way that organic farming should be viewed and developed, and the study highlights the differing conceptions of organic agriculture that were apparent among the farmers in the study. Differentiation on this basis reflects both differences at the individual farmer level, and the ways by which organic agriculture is regarded by the range of other actors with whom farmers interact and by whom they are influenced.

Farmers in the study have also demonstrated a capacity to change their views of what organic farming entails as they become more experienced and proficient organic farmers. Farmer-interaction with the Organic Certification Bodies, for example, indicate that organic farming practice are negotiable within certain limits, and this realisation also produces differentiation in the practices and goals of organic farming. The continuing redefinition and framing of organic farming, organic farmers, and more general sustainable farming practices offers potential for research on how alternative farming systems may develop. This may be of particular interest in examining the interaction of organic with conventional farming practices at the farm level, and in considering such hybrid approaches in responding to various pressures on Welsh farming, not least adaptation to, and mitigation of, the effects of climate change.

Given that farmers express a preference for learning from their peers, the differentiation between farmers has an influence on the way that they learn and the way that extension services may be organised. As is most clearly indicated among members of the neighbourhood group of farmers (Group C), farmers have particular criteria that they wish to satisfy before becoming active participants in associations. These criteria are related to their attitudes to farming and conversion to organic, but also to personal characteristics and their identity as particular types of farmer.

Issues of identity and engagement with peers are significant in the second part of the study, which is focussed on social learning processes. This part explores, in particular, whether extension activity may be aided by employing approaches based on the Community of Practice (CoP) framework. No firm conclusions on the applicability of the CoP framework in this context may be drawn from this study, but the core dimensions of the framework, namely mutual engagement, shared repertoires and joint enterprise, have some utility in judging how the associations of farmers in the study perform as social learning fora.

The three main dimensions of a CoP are based on the attitudes and motivations of participants. Hence, a community of practice structure is likely to grow from the interactions of participants who exhibit compatible characteristics: an ‘organic’ process that is generated from within the association of farmers rather than by the actions of external agencies. A potential exception, however, may be identified in situations such as that of the neighbourhood group (Group C). In this case, nothing that could be considered as a community of practitioners emerged not least because of the lack of an organised focal point. Whilst there is no guarantee of success, a social learning forum facilitated by an outside agency, based on sympathetic identification of mutual engagement and joint enterprise between farmers may have been possible for this group.

Whilst the three dimensions indicate those areas about which facilitators of social learning may need to be aware, it should also be noticed that CoPs are dynamic structures. As individual participants become more experienced or more proficient organic farmers, their personal goals and learning needs may change, but so too may the goals (or the joint enterprise) of the CoP. A CoP, whose joint enterprise is

primarily centred on learning, such as the Farming Connect discussion group (Group B), therefore, may be more likely to experience regular turnover of participants. Other CoPs, organised around other joint enterprise, such as the producer marketing group (Group A), are likely to have longer lasting ties and are likely to develop in a different manner. It has also been demonstrated that CoPs may be regarded as open structures that are porous to influences from the range of networks within which farmers participate, and these influences contribute to the development of each dimension of the CoP.

An approach to analysing social learning by means of the CoP framework is one among a number of further research avenues that may be developed (in addition to those that have already been indicated above and listed in Appendix II). In relation to exploring the CoP, further research may be conducted into the ways that mutual engagement may be characterised and encouraged, the ways that repertoires of practice are shared between farmers, and how joint enterprise may be identified and agreed.

Bibliography

- Banks, J. (1998): *Organic Food Supply Chains in Wales: Assessing the Impact and Potential*; Cardiff Food Group: Cardiff University, Cardiff, Wales, UK
- Banks, J.; Marsden, T. (2001): 'The Nature of Rural Development: The Organic Potential'; *Journal of Environmental Policy and Planning*, Vol. 3, pp103-121
- Brown, J.S.; Duguid, P. (1991): 'Organizational Learning and Communities of Practice: Toward a Unified View of Working, Learning, and Innovation'; *Organization Science*, 2; pp40-57
- Brown, J.S.; Duguid, P. (2001): 'Knowledge and Organization: A Social-Practice Perspective'; *Organization Science* 12 (4) March-April pp198-213
- Campbell, H.; Liepins, R. (2001): 'Naming Organics: Understanding Organic Standards in New Zealand as a Discursive Field'; *Sociologia Ruralis*, 41, (1), pp21-39
- Conford, P. (1988): *The Organic Tradition: An anthology of writings on Organic Farming 1900- 1950*; Green Books, Devon, UK
- Dabbert, S.; Häring, A.M.; Zanolli, R. (2004): *Organic Farming: Policies and Prospects*; Zed Books, New York
- Goodman, D. (2000): 'Organic and conventional agriculture: Materializing discourse and agro-ecological managerialism'; *Agriculture and Human Values*, 17: pp215-219
- Granovetter, M.; (1985): 'Economic Action and Social Structure: The Problem of Embeddedness'; *The American Journal of Sociology*, Vol. 91 (3), pp 481-510.
- Guthman, J. (1998): 'Regulating meaning, Appropriating nature: The codification of California Organic agriculture'; *Antipode* Vol. 30 (2), pp135 -154

Lampkin, N.; Foster, C.; Padel, S.; Midmore, P. (1999b): The Policy and Regulatory Environment for Organic Farming in Europe. Organic Farming in Europe: Economics and Policy, Vol.1; University of Hohenheim, Stuttgart.

Lampkin, N.; Measures, M.; Padel, S. (2002): 2002/03 Organic Farm Management Handbook; Organic Farming Research Unit, IRS, University of Wales, Aberystwyth, UK

Lave, J.; Wenger, E. (1991): Situated Learning: Legitimate Peripheral Participation; Cambridge University Press, Cambridge

Midmore, P.; Padel, S.; McCalman, H.; Isherwood, J.; Fowler, S.; Lampkin, N. (2001): Attitudes Towards Conversion to Organic Production Systems: A Study of Farmers in England; Sefydliad Astudiaethau Gwledig, Institute of Rural Studies, University of Wales, Aberystwyth

Morgan, K.J.; Murdoch, J. (2000): 'Organic vs. conventional agriculture: knowledge, power and innovation in the food chain'; Geoforum, 31, pp159-173

Padel, S. (2001): 'Conversion to Organic Farming: A Typical Example of the Diffusion of an Innovation?'; Sociologia Ruralis, 41 (1), pp 40-61

Wenger, E. (1998): Communities of Practice: Learning, Meaning and Identity; Cambridge University Press, Cambridge, UK

Appendix I: Reasons for Conversion to Organic Farming

Change in farm operations and enterprises are thought necessary by the farmers for a number of reasons, and conversion to organic farming is one change among a number that has been considered by farmers. An explanation of farmers' reasons for conversion is dependent on each farmer's individual situation, and their individual responses to the challenges of farming provide different routes toward the decision to convert. The following reasons for conversion, which include general reasons as well as those that are specific to organic farming, were given by the farmers:

- worsening trading conditions;
- a need to improve income from the farm;
- need for changes in working conditions to accommodate changes in personal circumstances or changes in enterprise;
- a need to accommodate, to some level, concern for the environmental, animal welfare and human health effects of conventional farming;
- reducing workload and a search for better farming practice;
- increasing income through more efficient use of subsidy regimes;
- reducing or re-assessing commitments to farming;
- increasing income through taking advantage of new subsidy opportunities coupled with price premium;

Individual farmers quote different combinations from this list, however, the range of reasons presented may be reduced to three overarching themes namely:

- Commercial reasons
- Managerial reasons
- Environmental and Health reasons; which include:
 - the environmental impacts of farming
 - the quality of food that can be produced
 - and personal health

Each theme is given different importance by different farmers, and in many cases the divisions between them are not absolute or clear cut. Each farmer has an interest in

both commercial **and** environmental sustainability, whilst concerns about management are based on a combination of the farmer's approach to farming and on conditions that are specific to the particular farm.

Commercial Reasons: Challenges and Market Opportunities

Commercial reasons for conversion follows the same logic that may apply to most changes to the farm namely to make the position of the farm more secure in the face of changed circumstances and pressures from the market. Differences in attitude toward farming in commercial or business terms are reflected in the reasons that farmers give for considering conversion to organic farming.

The commercial consequences of conversion are important considerations to all farmers in the study, but farmers' observations on their own experiences of conversion show that there are differing expectations and differing levels of what may be commercially acceptable to farmers. It is clear that there are some farmers who are wholly committed to the organic system and, as a result do not regard commercial success to be the most important factor in making the decision to convert. Others may have a long term commitment to organic farming, but one which is tempered by the ability of the organic system to deliver at least a comparable level of commercial return as a conventional farming system. A third group of farmers, attracted by premium prices and the conversion grants, appeared to have undertaken conversion for more opportunistic reasons, and were interested in and persuaded by more immediate commercial gain.

The fieldwork provides a range of farmers' observations on the role that their commercial expectations played in the decision to convert. As with all farmers' responses these observations have many different features and vary in their strength and clarity. In some cases farmers make observations that directly make commercial considerations the main reasons for converting to organic, whilst for other farmers these are moderated by other considerations that may only be fully understood by examining the individual case. Some farmers express their commitment to the organic system quite clearly both in responses which are made in commercial terms and in responses that highlight non-commercial reasons for conversion.

The **dairy farmers** in the sample, e.g. B3, C4, and C6 provide²⁷ the most acute observations on the commercial attractions of organic conversion. Farmers perceive that the economic conditions of conventional dairy farming suggest that it would be difficult to make money from small dairy farms, and farmers had been looking for solutions to the continuing squeeze on their farm's profitability.

Commercial information in support of the decision to convert was gained through meetings designed to attract more farmers to convert. The commercial message at the time that most of the farmers were considering conversion was that the organic milk market was expanding and that it was a good time to enter conversion. The buoyant forecasts for the organic milk market provided some promise of security that a choice of a less intensive method of production could maintain or even improve income levels²⁸. The organic market appeared to provide a suitable solution to the need to change their enterprises in some way to cope with uncertain and declining prices.

The improved price for milk was the basic factor for the sample's dairy farmers, and this was also reflected in the premium prices that **meat producers** were obtaining (e.g. A5, A6) in their decision to convert to organic. C6 quoted the price premium, and the apparently high consumer demand, for his decision to convert, but knew that market conditions (in dairy) can change (e.g. since the late 1990's) and these changes could test the resolve of farmers who had converted mainly on the basis of better prices.

However, the commercial credentials of organic farming remained a basic driver for conversion with the conversion grant scheme supporting premium market prices in providing a measure of security for the farmer. Even so the decision to convert, and the conversion process itself was stressful as farmers found themselves taking a step into an unknown commercial future. Some of the farmers (e.g. C4) had longer experience of the uncertainty since they had converted ahead of many other farmers in

²⁷ Farmers were grouped into Group A, B and C and numbered accordingly to maintain anonymity. The references to individual farmer responses are recorded in verbatim fieldwork interviews.

²⁸ Premium prices for dairy farmers are, however, dependent on obtaining an organic milk contract, and a number of farmers had failed to get one as the market for organic milk had become over-supplied during the period of this research.

and at a time when government support was not as extensive or secure as it has since become.

Managerial Considerations of Conversion

Near-organic farms

The characteristics of the farm, and the existing farming system that was being used were important to the farmer when considering conversion. Farmers in this study would say that their farms were '*suited to*' conversion, and this observation is made by most of the farmers either as explicit statements, following a considered description of the farm and the decision making process involved in conversion, or in general discussions about the fit between the farm's characteristics, their own working practices, and what they understand that the organic system regime required.

Explicit references were made by farmers that relate to their farms' suitability for conversion, and these are mainly about input levels and farming intensity: how much cake, concentrates, fertiliser, how much ploughing etc that was applied or carried on. These farmers considered that their practices were near enough to those of the organic system to make conversion if not an easy process, then at least one that was feasible.

Workload, Investment and Intensity

A calculation about the workload, investment and the farmers' attitude to intensive farming were also important considerations in making the conversion decision. It was clear that remaining in conventional farming would require either a change to *more intensive* farming or an *expansion* of production. Both of these options required an increase in livestock numbers, which implied increased investment in most cases. An increase in stock numbers entailed attendant increase in workload, pressure on grazing, and stress on the stock, and an increased demand for land or/and for an increased stocking rate. Increased numbers of stock would also entail, particularly for dairy producers, an increased demand for building space, and improved facilities such as milking parlours and slurry pits. It also demanded increased quota, husbandry, use of antibiotics, concentrate feed requirement and a likely increase in fertiliser and pesticide use.

Different farmers had to juggle different combinations of these management variables. For example, for B3 and B4 the problem was straightforwardly that of either getting bigger and incurring extra costs or looking at organic production as an alternative based on quality. C4 chose organic in part because of his frustration at this kind of a *treadmill* effect in conventional farming forcing farmers to continuously get bigger and/or incur greater costs just to keep up. C5 put it as a choice between going organic or to expand the dairy herd and to *'really push the cows'* (C5). He preferred to *'make a comfortable living'* rather than to *'make a fortune'* and saw the organic system as offering him the opportunity of achieving this goal. C8 also saw conversion to organic as a way of controlling workload and limiting investment

'...(it is like) increasing your herd by 50% without having to go out and buy cows, and increasing the shed space and things like that'. (C8)

Other farmers who made the same sort of calculation on these management variables used a combination of the *'quality over quantity'* argument with reasons that were specific to themselves and their farms (See Box 3).

Box 3: Choosing Organic: the effects of day to day management

C3 opted for organic because it required a reduced capital investment demand, at a time when he made a decision to end the arable enterprise of his mixed arable-dairy farm in order to concentrate on dairy.

For C1 the motive was to reduce his workload and the reduced stocking rate in organic farming offered that possibility.

B7 faced a challenge of managing unwieldy rented land spread: unconnected parcels spread around a village, some of which had their lease-term coming to an end, and a perennial problem of moving cattle through the village for milking at the farmyard. She had to decide on whether to find and rent more land elsewhere, to intensify, or to manage with fewer stock numbers. She also had personal health considerations and was looking to lighten her workload. The choice of organic had appeared as best because the premium prices on organic milk offered a way of maintaining income levels with fewer livestock and, hence, a more manageable use of resources.

A5's decision to convert to organic coincided with, and supported, a decision to extend their farmed area, partly to take up their full existing livestock quota allocation. The extra stock required extra land and the two combined gave the farm a stocking rate that complied with organic regulations. These management concerns were not the most important concerns in making the decision to convert, but the prospect of increased investment, increased running costs, increased workload, and a poor outlook for conventional prices worked strongly in favour of deciding to convert to organic farming.

Management issues in many cases may be said to have acted as a secondary or supporting reasons for conversion, but they are used and quoted by farmers to reflect their preference to manage farms at the same scale that they had been used to. This attitude may be somewhat different to that shown by farmers who were described as business-oriented, but even for them the prospect of a lower capital investment was attractive.

Farming Skills and Control

Whilst the management issues discussed was about the scale of farming it also could be said to reflect on the farmers' preferred *way of farming*. Organic farming offered a set of practices that appeared as a '*better*' way of farming²⁹.

B1's view of organic farming, for example, is that it makes sense because it employs more farming skill and self-reliance in comparison to the loss of control (to other decision makers) that modern farming techniques imply. However, the issue of control was not something that was first on the list of reasons to convert for many of the farmers. It was often mentioned almost as an afterthought following consideration of other factors that affected the decision to farm organically (e.g. A5, C6), although some farmers expressed it as a strong reason: (e.g. A1, A2, B1, and also B2) who saw the organic farming system as returning more control to the farmers, both in terms of daily farming practice and in terms of the effects on the farmers' own workload.

The reasoning against going down an intensive production path seems to be a mixture of management decisions, familiarity with and inclination toward a particular type of farming, although it is unclear which of these reasons was the most significant. Some farmers felt, however, that the changes of practices for conversion to organic were extreme. They suggested that it seemed that organic enthusiasts and experts were too idealistic and the changes demanded made conversion less attractive to farmers who were focussed on farming as a commercial enterprise. For example, both C6 and C3, who considered themselves as business oriented farmers, had problems with the expectations and advice being offered. C6 referred to the advice he received as being '*too organic*', while C3 complained that one advisor was giving advice more suitable

²⁹ '*better*' was a term often used by farmers to describe organic ways of farming

to hobby or very small scale farmers than to the kind of commercial operation that he was running.

‘There was little organic advice to be had and what (there) was (was) a bit... in 1998.. .was *very organic*.... (for example) I always use slurry when they say you should always use composted manure, but the system I run works well for me – its simple and its easy to operate’ (C6) (Italics added)

‘I expect he (organic consultant) would have been very good if I had twenty sheep and three goats and a cow and a large veg. patch which is what he was used to – he was used to people with fifty acres up in the hills somewhere or smaller. I have four hundred acres milking two hundred and fifty cows – how do we do it, where do we go? And I thought I knew more than he did..... that’s just personality nothing to do with the scheme...He wasn’t aiming at smallholding but that was his experience- very much on a mixed farm- you have to compost all your muck and he was spending money like water, he had me in for half a million pounds of capital expenditure.’ (C3)

B2, who had strong motivation and support for sustainable agriculture also found that his interaction with other organic farmers was sometimes inappropriate because their focus was more on the ‘*organic*’ element in organic farming rather than on the business element.

‘..... but I feel that it (attitude) is more like a ‘*way-of-life organic*’ and how to get things to work organically and weed control and how farmers work as organic farmers rather than motivating you to make it into a business.’ (B2)

Many farmers, however, were more definite about the benefits that organic methods brought to their own working lives, and relished the challenges and opportunities that organic farming presented e.g. A4, A7, C1, and even C3.

Environmental, Food Quality and Health Reasons

Environmental Impacts

For farmers the environmental significance of the system was primarily based on the fact that it drew farmers away from intensive production and on removing dependence

on synthetic chemical application (e.g. A3). Many farmers pointed out that they had already been low nitrogen users (for a variety of reasons), and that consequently their farming routines would not need to change dramatically on conversion. The fact that they felt that their existing practices were close to those of an organic regime was significant to the decision to convert, and this factor appeared to be more decisive than the environmental impact.

Some of the farmers, however, were aware of the wider environmental effects of organic conversion. B2, for example, mentioned that his interest in organic farming was based on the sustainability of conventional farming, particularly when considering resource use and resource exploitation, and B1 recognised that a change of attitude and mentality among farmers was required.

Other farmers came to a similar conclusion as they became more experienced organic farmers. Farmers mentioned what the impact of conversion had made to the variety and numbers of wildlife on their farms, (C5, C8), and also stated that they wanted to reduce the environmental impact of farming on the land, river systems and wildlife (A1, A3, A4, A6, A7, B1, B2, B4, B5, B6, C4, C5, C6, C7, C8). However, farmers were also concerned that they could be sure that the commercial impacts were going to be positive.

Animal Welfare, Food Quality and Health Implications

Improvement in animal welfare, animal health and concern for food quality were issues that farmers mentioned in support of the organic system once the fundamental decision to convert had been made on commercial grounds. These issues are prominent in the continuing process of learning that the farmers undergo after conversion, and may become more prominent for the farmers as they become more expert in, and committed to the organic system.

The effects of BSE and then the later Foot and Mouth disease had been significant in some farmers' decision making process. These diseases contributed to declining confidence about conventional food markets, and a couple of farmers referred to what they saw as the long term and insidious effects of agro-chemicals. However, most of the farmers in this study did not think that animal welfare, the farmers' personal

health, or the quality of the food that their farming produced had been strong reasons for making the decision to convert.

Appendix II: Further Research

Potential areas for further research include the following areas of interest:

- Mapping the categorisation of farmer attitudes and motivation with regard to farm businesses onto attitudes and motivation for conversion to organic farming and other sustainable farming practices
- Exploring links between entrepreneurial skills and motivations for alternative (sustainable) farming systems
- The framing, by actors in agri-food networks, of organic farming, organic farmers, and more general sustainable farming practices and their importance as influences on the development of alternative farming systems, including hybrid forms of conventional and organic/ sustainable farming
- The impact of climate change policies on Welsh agriculture and the development of organic and hybrid forms of agriculture
- A systematic study of the CoP framework applied to different associations of farmers, and the development of the framework to apply to dispersed and relatively unstructured sectors such as found in agriculture
- The development of extension tools based on the CoP framework
