

Food supply chains: the long and short of it

Brian Ilbery

In my previous inaugural lecture, ‘If the CAP doesn’t fit – change it’ (Ilbery, 1996), I examined the relationship between government policy and the changing nature of the agricultural geography of the UK and EU. At the end, I raised the following question:

‘Could it be that lagging rural regions will concentrate on farming the environment and producing quality food products for niche markets, while the prosperous agricultural lowlands continue to produce food for the mass market using modern technology’? (p. 25).

Thirteen years on, similar questions can still be asked and government policy, especially the reformed CAP, represents a major driver of change in agriculture and food, especially in terms of what are variously described as food supply chains, food networks or food systems. Rather than examining the influence of specific policy measures on agriculture and food, this particular paper focuses on the changing nature of food supply chains, from what originally was a fairly *localised* phenomenon to one that became increasingly *delocalised* and then, for some, *relocalised*. It is argued that the food supply chain is inherently a spatial concept, reflecting the changing relationship between the three ‘Ps’: product, process and place (Ilbery et al. 2005).

In the original localised food supply system, there was a fairly simple relationship between product, process and place, in which the consumer usually purchased fresh, seasonal and staple products either directly from local farmers and/or from local retail outlets; there was little alternative choice. This relationship changed fundamentally from about the 1960s and, after providing a brief outline of the food supply chain concept, this paper focuses on the two phases of food delocalisation and food relocalisation. First, it explores how the so-called ‘industrial model’ of agriculture (up to the mid-1980s), driven by favourable support policies under the CAP and globalisation processes, often led to the lengthening of food supply chains and the ‘distancing’ of product and place. Secondly, it examines attempts to ‘reconnect’ product and place through the encouragement of shorter food supply chains and ‘multifunctional’ farming systems. It is not suggested that the first phase was, or has been, replaced by the second phase, but both phases have impacted on the changing geography of agriculture and food. The paper offers an essentially production and developed market economy perspective on food supply chains and does not have time to engage with important consumer dimensions of agri-food studies.

The food supply chain

The concept of the food supply chain is used to trace the routes taken to get particular foodstuffs from ‘farm to fork’. Geographers have used the supply chain metaphor to literally ‘follow’ the nature of connections for particular food commodities. Hartwick (1999 p. 425) adopted the following definition of a food chain (or network):

‘Significant production, distribution and consumption nodes, and the connecting links between them, together with social, cultural and natural conditions involved in commodity movements’.

However, this definition includes only so-called ‘downstream’ elements of the supply chain and assumes that it starts from the point of production (i.e. the farm), when in reality it also includes important ‘upstream’ elements relating to where and how farmers source their input supplies such as feed, seed and machinery (Figure 1). The supply chain is also often presented as operating in a linear fashion, with both power and control increasing towards the ‘downstream’ elements of the chain and resting with processors and corporate retailers in particular. This has led to the dominance of buyer-driven commodity chains for many foodstuffs. Of course, the food supply chain involves more than the physical movement of food from farm to fork; it also includes, for example, research and development, the flow of information and government regulation. It is for these reasons that the term food *network* is often preferred to food chain (Watts et al. 2005; Cook, 2006; Jackson et al. 2006). Whatever the terminology used, it is clear that in delocalised food supply chains, where the place of production becomes increasingly distanced from the point of consumption, farmers lose power and control, and most ‘value added’ goes to nodes further down the chain. One of the objectives of food relocalisation and short food supply chains is, therefore, to ‘reconnect’ product and place and to give some control back to farmers.

Industrialised farming and the lengthening of food supply chains

From the 1960s through to the mid-1990s, the food supply chain became increasingly industrialised and globalised. As Whatmore (1995 p. 37) remarked, developed and developing countries were linked together in ‘highly industrialised and increasingly globalised agri-food networks’. Encouraged by guaranteed prices and other favourable government policies under the CAP, which favoured ‘northern’ products and larger farms in the northern regions of the EU, farming began to adopt many of the principles that characterised manufacturing industry such as product and labour specialisation and assembly-line type production systems. This ‘industrial’ model of farming was increasingly controlled by large agribusiness companies, transnational corporations (TNCs) and corporate retailers; they acted as the primary agents of the globalisation of the agri-food sector and dictated the nature of relations that linked together farming, processing and marketing. Often not interested in farming itself, because of its dependence on biological processes, they tended to offer contracts to farmers to provide ‘raw materials’ for their value added and food manufacturing activities. This enabled them, through a process of *subsumption*, to exert control over what farmers produced.

The industrial model of farming was/is characterised by four key things:

- An increasing *intensification* of production, through rising capital expenditure on major agricultural inputs such as machinery and agro-chemicals.

- An increasing *specialisation* of production which, because of government guaranteed prices, saw farmers concentrate their resources on fewer enterprises. This process became regional with, for example, cereal specialisation in East Anglia and the Paris Basin, milk production in Brittany and wine production in southern France.
- A *concentration* of production on fewer, larger farms in particular ‘hot spot’ regions. The so-called 80/20 rule seems to apply, whereby for most commodities over 80% of production comes from less than 20% of farms. This, of course, means that around four-fifths of farms – mainly in less favourable agricultural regions – become increasingly marginalised and ‘left behind’ by industrial processes. Similar processes of concentration have also been occurring in other nodes of the food chain e.g. machinery suppliers, corporate retailers.
- The increasing *integration* of farming into the food supply chain. The actual process of farming becomes inextricably linked to both ‘upstream’ and ‘downstream’ elements of the supply chain and *vertical integration* occurs when a major agribusiness company owns or controls all nodes in the chain. One such example is ConAgra in the USA, which produces its own livestock feed and fertilisers, slaughters cattle, processes the meat and sells the products through its own retailing outlets – in what is a complex and long food supply chain (Hendrickson and Heffernan, 2002; Ilbery and Maye, 2008a).

Effectively, the industrial model of farming involves an attempt to bypass the farm and replace nature by using non-agricultural raw materials in food and fibre preparation. This is dominated by two processes:

- *Appropriationism*, whereby the objective of agribusiness companies is to replace agricultural *inputs* by ‘industrial’ alternatives e.g. chemicals for manure and tractors for horses.
- *Substitutionism*, which relates to agricultural *outputs* and the creation of ‘industrial’ substitutes for food and fibre e.g. sweeteners for sugar and nylon for cotton.

Thus the industrialisation of agriculture proceeds in successive rounds of appropriationism and substitutionism which, according to Le Heron (1993 p. 45) is ‘increasingly obliterating the farming base’.

As problems emerged with the uneven development and unstable nature of industrial farming (see below), the TNCs and corporate retailers often relocated the production function of their agri-food system to so-called newly agriculturalising countries in less developed parts of the world, thus lengthening the food supply chain and encouraging the globalisation of agriculture and food. A good example of this has been the production not of manufactured food but of fresh, high-value food commodities in Kenya for export to ‘northern’ markets. Some colleagues from Coventry University and I conducted research for DFID on the rapid increase throughout the 1990s in the importation of runner and green beans, mange tout and baby sweetcorn into the UK from the Lake Navasha region of Kenya (Barrett et al. 1999; Barrett et al. 2004). Attracted by low labour costs, government support (Structural Adjustment Programmes), trade liberalisation and global communication links, consumer demands/lifestyles and good physical conditions for

intensive farming (7 crops of runner beans a year), agribusiness companies and corporate retailers developed different types of long supply chain to facilitate this trade. Two main types of chain were identified:

1. *Wholesale chain*, whereby relatively small-scale growers were linked to the export market through a series of agreements and contracts between growers, agents, exporters, freight handlers, importers and retailers (Figure 2). The links in this lengthening chain were often based on complex and family-based connections e.g. Kenya Asian exporters dealing with British Asian importers and retailers. Not having to satisfy strict supermarket specifications, the produce was often imported and sold loose rather than in packed form. This chain accounted for between 20 and 25% of the horticultural exports from Kenya to the UK, but was in decline because of developments in the second type of long food supply chain.
2. *Supermarket chain*, involving the movement of products such as green beans, mange tout and baby sweetcorn along a ‘cool’ chain (from the point of harvest to the supermarket in a temperature-controlled environment). This involved mainly large-scale commercial growers supplying supermarkets with pre-packed vegetables along either *partially* or *fully-integrated chains* (Figure 2). The former, accounting for about 25% of exports, involved growers who were also exporters, whereas the latter (about 50% of exports) saw one company controlling the production, exporting, freight handling and often importing of vegetables (or cut flowers). Three major grower/exporter/freight companies came to dominate this trade. Quality, freshness and speed of delivery are vital considerations, with the pre-packs bar coded and priced in Kenya (stickers received from the supermarkets). Investment was made in packing stations, refrigerated trucks and cold stores (including at Nairobi airport), all to EU standards (slides on packing etc). Contracts between importers and supermarkets are often informal, with the former taking most risk and the latter exerting their power through ‘remote control’.

While other research has since been conducted on the export trade in an African context (Dolan and Humphrey, 2002; Freidberg, 2004), similar examples can be found for other produce such as salmon (Phyne and Mansilla, 2003), papaya (Cook, 2004) and sugar (Ward et al. 2008).

Clearly, these intensive farming methods and long supply chains were developed to satisfy the demands of the ‘new consumer’ in developed market economies and not the internal demands for more staple foods. Thus such developments contributed to sharp inequalities in production, technology and income in the new agriculturalising countries. Likewise, the industrial model of farming was being criticised for contributing to uneven spatial development in developed market economies and for being economically and environmentally unstable. For example, it led to the increasing marginalisation of farming in poorer (lagging) EU regions and many farmers lost any power they may have had in the food chain. Farmers also became increasingly indebted as they got caught on what became known as the *technological treadmill* and major concerns over food safety and health followed outbreaks of mad cow disease, ecoli, foot and mouth disease and bird flu. Global trade in food was not ‘fair’ because of the differential use of subsidies and

tariffs and there was increasing concern over the issue of ‘food miles’. In a similar vein, the environmental disbenefits of industrial farming are well known, ranging from hedgerow and moorland removal to soil erosion and water and air pollution.

However, one has to be careful about the globalisation of agriculture and food, as epitomised by MacDonal’s and Pepsi Cola. In reality, globalisation is a partial and contested process, and globalisation tendencies are mediated by regional and local relationships. It is to the latter that this paper now turns.

Relocalisation and the shortening of food supply chains

Given the uneven/unstable and partial nature of industrialised farming and the globalisation of agriculture, there has been an increasing interest within developed market economies in foods of local and/or regional provenance. This is often expressed in the purchase of food not from supermarket outlets but from ‘alternative’ supply chains such as farmers’ markets, box schemes and farm shops, thus offering potential to shorten the food chain and to ‘reconnect’ product and place. The need to reconnect producers and consumers, and farming to the local economy, was heightened by the rapid spread of foot and mouth disease in the UK in 2001 (Ilbery, 2002). In the aftermath of the 2001 outbreak, the Commission on the Future of Farming and Food published what became known as the Curry Report (2002). This report described farming in the UK as ‘unsustainable in every sense of the term’ and ‘detached from the rest of the rural economy and environment’. Sir Donald Curry emphasised the need to:

‘Reconnect our farming and food industries; to reconnect farming with its market and the rest of the food chain; to reconnect the food chain with the countryside; and to reconnect consumers with what they eat and how it is produced’ (p. 6).

Such a relocalisation of the food supply system provides an opportunity for farmers to add and retain value, as well as giving them back some power and control over what they do. While in the UK and EU such ‘alternative’ food practices have been seen as ‘local’ and thus as a potential instrument of local economic development and an endogenous claim to reinvigorate historical and cultural traditions of product and place, in the USA they are seen more as an oppositional or social movement against industrialised farming systems. Food relocalisation can also be seen as a geographical process, leading to ‘alternative food geographies’ (Maye et al. 2007) and perhaps associated with more marginal farming regions that have ‘for a variety of reasons failed to engage with the productivist conventions that have predominated in the agri-food system’ (Parrott et al. 2002 p. 243) .

The encouragement of more localised food production and consumption inevitably led to distinctions being drawn between ‘conventional’ and ‘alternative’ farming systems (Table 1). Thus words such as ‘quality’, ‘embedded’, ‘sustainable’, ‘traditional’ and ‘natural’ characterise alternative food systems, in contrast to the ‘quantity’, ‘disembedded’, ‘agro-chemicals’, ‘rationalised’ and ‘manufactured’ features of conventional food supply systems (Ilbery and Maye, 2005a). Of course, the two systems

are not mutually exclusive and there is often considerable blurring between them. For example, while organic food may be regarded as ‘alternative’ by many, most organic sales still occur through ‘conventional’ supermarkets.

Four concepts are central to an understanding of ‘alternative/local’ food supply chains:

- *Short food supply chains (SFSC)*, whereby the number of nodes between the producer and final consumer are reduced and/or minimised. Food travels through a chain that is embedded with information about the mode of production, provenance and the distinctive quality aspects of the product. Following Marsden et al. (2000), three types of SFSC can be identified:
 1. Face-to face, where the consumer buys directly from the producer e.g. farmers’ market, farm shop, deliver round.
 2. Spatially proximate, where products are sold through local retail outlets (e.g. village store) and consumers are aware of the links between product and place.
 3. Spatially extended, where food is sold outside its region of origin (e.g. via the internet) to people who have little personal knowledge of the place of production. In such cases, branding and product labelling are often important means of conveying information about product, process and place.

While the first two SFSC are associated with ‘local’ foods, the third relates to ‘locality’ foods.

- *Social embeddedness*, whereby economic behaviour is embedded in, and mediated by, a complex web of local social relations (Winter, 2003; Kirwan, 2004). Thus ‘alternative’ food supply chains are characterised by local ties and features such as trust, loyalty, respect, regard, friendship and acknowledgement. Of course, social embeddedness does not just apply to ‘alternative’ food systems; all economic relations are, to some extent, socially embedded. It is just that there are different degrees of social embeddedness in food supply systems and its importance is emphasized in ‘alternative’ food chains.
- *Turn to quality* or the idea that local (alternative) food is of higher quality than more conventional/industrialised farming systems. The link between quality (product) and locality (place) is often assumed for certain products, as demonstrated by the classic AOC certification for wine in France and the more recent EU PDO (Protected Designation of Origin) and PGI (Protected Geographical Indication) designations (Ilbery and Kneafsey, 2000a and b). However, quality means different things to different people and so, while producers may emphasize the use of local raw materials, attention to detail and granny’s recipes, consumers may emphasize taste, texture, flavour, appearance and premium price. Product labelling is an important dimension of marketing quality, emphasizing different combinations of the three ‘Ps’ e.g. product (local cheese), process (organic) and place (Stilton).
- *Defensive localism* or the idea that ‘local’ is more important than ‘quality’ in local food systems (Winter 2003). Consumer surveys have tended to confirm this, demonstrating support for local farmers and the local economy irrespective of how

the food is produced. Thus the turn to local is not just about alternative food systems; it can include food that is produced conventionally as well as alternatively e.g. organic, biodynamic.

However, there is some confusion within these debates over what is meant by 'local' and 'locality' food (Ilbery et al. 2006). The former refers to food that is produced, processed and retailed within a defined geographical area, usually 30-50 miles radius of the point of retail, whereas the latter refers to food that is produced and processed in a particular place but which often circulates more widely e.g. Stilton cheese, Newcastle brown ale. Not surprisingly, Regional Development Agencies, because of their economic development objectives, have favoured the promotion of locality foods, through regional food groups, as does PDO/PGI designations. However, local foods are better able to generate genuine local economic development. Of course, it is possible for 'local' food producers to become 'locality' food producers if they are seeking to expand their business. Either way, Watts et al. (2005) highlighted the need to distinguish between 'weaker' and 'stronger' alternative systems of food provision. Thus, while the former place emphasis on quality and the labelling features of locality *food* networks (i.e. the product is key), the latter focus on the revalorised and embedded characteristics of local food *networks* (i.e. the supply chain and nature of relations are key).

Much of our own early work on short food supply chains was concerned with 'locality' foods and *food* networks (Ilbery and Kneafsey, 1998; 2000a and b; Kneafsey et al. 2001). Thus there was a focus on producers' constructions of 'quality' and the development of regional speciality or niche foods in lagging EU rural areas, as well as on PDO/PGI designations in the UK. However, more recent work has concentrated on 'local' foods and the nature of the food supply chain itself (Ilbery and Maye, 2005a and b; Ilbery and Maye, 2006; Maye and Ilbery, 2006; Ilbery et al. 2006). Much of this has involved an analysis of the supply chains of food producers, including both 'upstream' and 'downstream' dimensions. Adopting a whole chain approach has led us to raise a number of questions about alternative food *networks*, local foods and short food supply chains. For example:

- Is there such a thing as an 'alternative' food supply chain/food economy?
- How local are some of these so-called localised food supply chains?
- How sustainable are they?
- How is the downturn impacting on the producers of local and locality foods?

Our research has shown that there are very few genuinely 'alternative' or 'local' food chains. It is common for many so-called 'alternative' producers to 'dip in and out' of more conventional food chains, either to purchase primary inputs and/or to make use of abattoirs, distributors and retail outlets. Likewise, alternative food geographies are not just local; they can also be global, as demonstrated with international fair trade and organic food movements. However, there is considerable literature to suggest that both are becoming 'conventionalised' or 'mainstreamed' in terms of the size of businesses controlling production and the adoption of conventional patterns of marketing and distribution (Guthman, 2004; Lockie and Halpin, 2005; Best 2008). Thus the trade in

both types of product is being dominated, or ‘appropriated’, by corporate retailers, who have been quite quick to jump on the ‘local food for local people’ bandwagon.

While from ‘farm’ to ‘fork’ many food supply chains appear to be short and thus local, especially when the producer is selling directly to the end consumer via farmers’ markets, farm shops and box schemes, this is not always the case once the source of ‘upstream’ inputs are taken into consideration. A good example of this is the famous Craster kipper from Northumberland. Originally sourcing the herring close by from the North Sea and smoking it in the traditional manner, this ‘local’ speciality is now made from herring that comes from Iceland and arrives in Craster via a subsidiary company in Grimsby. Thus the supply chain is not that short. Although the company sells to local outlets (spatially proximate chain) and has an on-line shop (spatially extended chain), it also ‘dips into’ more conventional channels and sells its products to Waitrose supermarket who advertises it as a local speciality food.

This is not just an isolated case. In a current piece of research for Defra on local and national organic marketing chains, Sussex was identified as one of three core areas of organic production in England and Wales (the others were south-west Wales and south-west England). We interviewed 22 organic producers in Sussex and, while there were genuine attempts by some to both purchase their inputs and sell their products locally, this was not always possible (Ilbery and Maye, 2008b). Indeed, a large majority of them had to purchase essential primary inputs such as feed and seed from outside the region. Thus it was common for box scheme proprietors to buy plants and seeds from specialist suppliers in Cambridgeshire and Devon. Not only this, but these producers sometimes had to supplement their own salad/vegetable boxes with products purchased from other organic suppliers, often from outside the region and occasionally from abroad. The relative long-distance movement of inputs and outputs can make the notion of ‘local’ and ‘locality’ almost irrelevant. This is exemplified by another, organic beef, producer in West Sussex. Although sourcing all necessary inputs either from his own farm or locally, he sells most of his store cattle at one year old directly to another organic farmer over 130 miles away in Warwickshire to fatten and retail. The latter has a farm shop, where the beef is marketed and sold as ‘local’; however, all surplus beef is sold to the Chitty Group back near Sussex in Guildford, Surrey, where it is slaughtered and sold through conventional supermarket chains.

The need to purchase essential primary inputs from, and sell some outputs at, considerable distances away from the farm questions the sustainability of ‘alternative’ or ‘local’ food supply chains. This was examined as part of our EU research project (2001-2004) on the supply chains of small rural businesses in the Scottish/English borders region (SUPPLIERS). Six of 43 examined businesses were selected for in-depth case studies over a two-year period and ‘tested’ in terms of SUSTAIN’s ‘sustainable food criteria’. SUSTAIN, the alliance for better food and farming that represents over 100 international, national and regional public interest organisations, adopted an ‘idealistic’ approach to sustainability based on nine criteria covering environmental, economic and social dimensions (Table 2). These criteria were never fully defined, but included such issues as accessibility, proximity, healthy, socially inclusive and environmentally

beneficial. Driven by a strong economic imperative, not one of the businesses, including Craster Kippers, was approaching sustainability, with the most sustainable, an organic hill meat business, scoring 7 out of 9 (Ilbery and Maye, 2005b). The rest could manage only between 3 and 5 out of 9, with all claiming to produce healthy food (traditional rather than manufactured methods), contributing to the local food culture and using local labour in a non-exploitative way. The main difficulties revolved around accessibility (problems of operating in a lagging region with poor infrastructure, low population densities and low demand for speciality food products) and proximity (local buying and selling) – emphasising the importance of geography and place in food supply chains, and the need to be careful when conflating term such as ‘local’, ‘alternative’ and ‘sustainable’.

The one business to do well in terms of the sustainability criteria was the organic hill meat business. Started by Steve, from a non-farming background, in 1998, the business employs 4 full-time staff and sells a range of local and organically-reared meat products, using local branding and traceability (Figure 3). He also sources cattle from other local organic farms, uses the local (organic accredited) abattoir in Whitley Bay, takes the meat back to the on-farm butchery and then sells through a number of mainly local marketing channels. This initially involved farmers’ markets, mail order and specialist butchers, but now the business focuses more on stable outlets like direct sales, local shops and catering outlets. The proprietor is well-informed and well-connected, and received a grant to establish a licensed meat cutting plant, which other local organic farmers now make use of. Despite this apparent success story, Steve argues that much of his ‘value added’ is lost through high distribution costs because of access problems to his retailers and consumers. He is also concerned about his dependence on the one local abattoir (run by an elderly person) and the possible decline in demand for his products during the economic downturn.

Concerns over direct marketing and adding value to ‘local’ foods have also emerged during our current organic farming project. What was clear from the surveys in all regions, and especially in Sussex, was that some producers who were originally committed to different forms of direct marketing are now struggling. Despite the rural development rhetoric, it is clearly not easy to develop and maintain these chains in practice. One of the reasons offered for this was the competition resulting from the growth of large, national ‘alternative’ forms of direct marketing such as Riverford and Abel and Cole. The issue of competitiveness was often most clearly expressed in the case of box schemes in south-east England. The following quote summarises well some of the issues:

‘Boxes have hit the big time, everyone is doing boxes. The milk delivery service, our local greengrocer, the supermarkets, so the concept of boxes is now out there in the market place. Boxes used to be a direct relationship between the people who bought it and the farmer. Now boxes are operated by big, you know, national operators and the supermarkets (SE208).

A key reason advocated for direct marketing is that producers can add value to their outputs, especially if they either process the raw materials themselves or get them processed locally. However, while there were examples of adding value in the three study regions, it was often seen as involving much more work; a number of respondents simply did not have the time and/or capacity to consider adding value to their produce. In south-west Wales, for example, a number of problems resulted from trying to add value to meat. First, it was difficult to sell the whole carcass, especially the cheaper cuts. Secondly, without a cold room, there was a need to sell the animal within a few weeks of slaughter. Thirdly, the cost of processing, particularly of hiring butchering facilities, could wipe out any extra profit. Finally, processing capacity and local labour were in short supply – in an area with a restricted demand for organic food. Given these circumstances, it is not surprising that it was often cheaper and more efficient not to add value and to sell organic produce directly to marketing cooperatives and/or processors, usually outside the study region.

It is for such reasons that many so-called ‘alternative’ food producers have to complement local marketing with the use of more national marketing outlets including cooperatives, processors and supermarkets. This hybridisation of food supply chains, involving complex and multiple sets of relationships, is well exemplified by an organic dairy business in south-east England that decided to complement a ‘simple’ milk chain (selling raw milk to OMSCo – Organic Milk Supply Cooperative) with a ‘complex’ yogurt chain on the basis that there was a potential opening for drinking yogurt in the local market. However, as the producer explained:

‘It hasn’t been a great success....making it is easy, selling it is not. It’s another whole world, the retail business, and we were starting from knowing nothing. I think it’s a world that I slightly regret getting involved in because both our backgrounds are farming and land management; we don’t fit into retailing and it’s hard work’ (SE205).

Indeed, the survey of organic producers showed a bias towards the selling of their produce through national organic marketing chains (e.g. organic milk through OMSCo and organic meat through OLMC – Organic Livestock Marketing Cooperative); the reason often quoted for this was scale and simplicity. This was more pronounced in south-west Wales than in south-east England, where there was a greater attempt to use local marketing channels to benefit from the more prosperous nature of the regional economy in south-east England and the demand for local/organic food from such outlets by relatively wealthy consumers. However, concern was being expressed by producers about the general downturn in the economy in 2008 and the impact that this may have on the demand for organic produce; this concern has since been heightened by the media, suggesting that there has indeed been a significant reduction in the demand for, and sales of, organic food.

Food supply chains: long or short?

This paper has attempted to examine the changing relationship between the three ‘Ps’ in the move away from delocalised and long food supply chains towards relocalised and

short food supply chains. In the former, the three Ps become 'disconnected' as there is little relationship between product, process and place, whereas in the latter there is an attempt to 'reconnect' product and place through the utilisation of more localised and traditional processing methods. Thus geography is important in debates on food supply chains, although the fairly clear distinction made in the introduction between lagging and prosperous regions, in terms of niche and mass produced food, is not entirely accurate. Nevertheless, large agri-food companies and corporate retailers have developed considerable power since the mid-1970s and they effectively exert control over the entire food supply system. These businesses tend to concentrate their activities in places most suited to industrialised methods of production (in developed and developing countries); for them, farming often represents just one 'cog' in a larger agri-commodity chain. The majority of other farmers and regions are left out of these industrialised and long food supply chains and thus become marginalised. Trade liberalisation and greater market orientation can only serve to strengthen these processes and the power of TNCs and corporate retailers.

Despite the almost inevitability of these processes, the consumer has been 'biting back', with a significant number supporting the development of alternative, shorter and 'local' food supply chains for a number of reasons ranging from health and food scares, environmental protection, local economic development and lifestyles. A number of these shorter food chains are based on some territorial association between product and place and direct consumer contact; quality, authenticity and traceability are key attributes of such chains. However, as Watts et al. (2005) emphasize, it is important to distinguish between weaker and stronger alternatives, with the latter focused on the chain (or network) and the nature of relations rather than on the quality attributes of the food. This implies an important distinction between 'local' and 'locality' foods, with the former more valuable for local and sustainable economic development. While there has been a noticeable growth in alternative/local food supply systems since publication of the Curry Report, our research has highlighted a number of difficulties with direct marketing and value added activities. Competition from national schemes and supermarkets, the need for farmers to become involved in marketing and retailing, the growth and saturation of farm shops leading to the closure of other local food retail outlets, the paucity of local input supplies and the rising costs of primary inputs, the general failure of small food producers in the UK to cooperate with each other, and the general downturn in the economy possibly affecting the demand for niche/speciality food first are all conspiring to make it difficult to sustain the continued development of short food supply chains. Instead, many producers are going back to what they are good at – producing food and leaving the marketing and/or processing to others. The increasing conventionalisation of fair trade and organic food movements is also not helping the cause of alternative food systems.

So, it is not really a case of either long or short food supply chains; they are not mutually exclusive. Indeed, many of the food supply chains of local and organic producers that we have examined have become hybridised, involving different combinations of marketing channel and with the use of one major marketing channel (either local or national) often complemented by the use of one or more other local or national channels. The key driver

is economic necessity and many food producers have developed highly individualised and often complex supply chains, where there is considerable ‘dipping in and out’ of conventional food chains by alternative food producers. Thus a singular ‘alternative’ food system does not exist, but this does not deny the values associated with alternativeness. The categorisation of food systems into ‘conventional’ and ‘alternative’ is too simplistic and there is a need to interpret ‘local’ food systems more critically. Indeed, in the context of the global downturn in 2008, a recent influential report on the future of food and farming in the UK (Chatham House, 2009 p. 5) suggests that food security is a major future issue and that there is a need to produce more food – but this time through an effective rather than exploitative use of resources. Although only seven years after publication of the Curry Report (2002), in which local food systems were championed, the context of the Chatham House Report (2009) is very different. This demonstrates the dynamic and changing nature of food supply systems.

References

Barrett, H., Ilbery, B., Browne, A. and Binns, T. (1999) Globalization and the changing networks of food supply: the importation of fresh horticultural produce from Kenya into the UK. *Transactions of the Institute of British Geographers* 24, 159-174.

Barrett, H., Browne, A. and Ilbery, B. (2004) From farm to supermarket: the trade in fresh horticultural produce from sub-Saharan Africa to the United Kingdom. In: Hughes, A. and Reimer, S. (Eds) *Geographies of commodity chains*. Routledge, London, pp. 19-38.

Best, H. (2008) Organic agriculture and the conventionalization hypothesis: a case study from Germany. *Agriculture and Human Values* 25, 95-106.

Chatham House (2009) *Food futures: rethinking UK strategy*. A Chatham House Report, Chatham House, London.

Cook, I. (2004) Follow the thing: Papaya, *Antipode* 36, 642-64.

Cook, I. (2006) Geographies of food: following. *Progress in Human Geography* 30, 655-666.

Curry Report (2002) *Farming and food: a sustainable future*. Policy Commission on the Future of Farming and Food, Cabinet Office, London.

Dolan, C. and Humphrey, J. (2002) Changing governance patterns in the trade in fresh vegetables between Africa and the United Kingdom. *Environment and Planning A* 36, 491-509.

Friedberg, S. (2004) *French beans and food scares*. Oxford University Press, Oxford.

Guthman, J. (2004) The trouble with 'organic lite' in California: a rejoinder to the 'conventionalisation' debate. *Sociologia Ruralis* 44, 301-316.

Hartwick, E. (1998) Geographies of consumption: a commodity-chain approach. *Environment and Planning D: Society and Space* 16, 423-437.

Hendrickson, M. and Heffernan, W. (2002) Opening spaces through relocalization: locating potential resistance in the weaknesses of the global food system. *Sociologia Ruralis* 42, 347-369.

Ilbery, B. (2002) Geographical aspects of the 2001 foot and mouth disease in the UK. *Geography* 87, 142-147.

Ilbery, B. (2006) *If the CAP doesn't fit – change it*. Inaugural lecture, Coventry University, May.

- Ilbery, B. and Kneafsey, M. (1998) Product and place: promoting quality products and services in the lagging regions of the European Union, *European Urban and Regional Studies* 5, 329-341.
- Ilbery, B. and Kneafsey, M. (2000a) Producer constructions of quality in regional speciality food production: a case study from south west England. *Journal of Rural Studies* 16, 217-230.
- Ilbery, B. and Kneafsey, M. (2000b) Registering regional speciality food and drink products in the United Kingdom: the case of PDOs and PGIs. *Area* 32, 317-325.
- Ilbery, B. and Maye, D. (2005a) Alternative (shorter) food supply chains and specialist livestock products in the Scottish-English borders. *Environment and Planning A* 37, 823-844.
- Ilbery, B. and Maye, D. (2005b) Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders. *Land Use Policy* 22, 331-344.
- Ilbery, B. and Maye, D. (2006) Retailing local food in the Scottish-English borders: a supply chain perspective. *Geoforum* 37, 352-367.
- Ilbery, B. and Maye, D. (2008a) Changing geographies of food consumption and production. In: Daniels, P., Bradshaw, M., Shaw, D. and Sidaway, J. (Eds) *Human geography: issues for the 21st century*. Pearson, Harlow, pp. 159-179.
- Ilbery, B. and Maye, D. (2008b) The changing dynamics of organic farming in England and Wales. Anglo-German Rural Geography Symposium, Oldenburg, Germany.
- Ilbery, B., Morris, C., Buller, H., Maye, D. and Kneafsey, M. (2005) Product, process and place: an examination of food marketing and labelling schemes in Europe and North America. *European Urban and Regional Studies* 20, 331-344.
- Ilbery, B., Watts, D., Simpson, S., Gilg, A. and Little, J. (2006) Mapping local foods: evidence from two English regions. *British Food Journal* 108, 213-225.
- Jackson, P., Ward, N. and Russell, P. (2006) Mobilising the commodity chain concept in the politics of food and farming. *Journal of Rural Studies* 22, 129-141.
- Kirwan, J. (2004) Alternative strategies in the UK agro-food system: interrogating the alterity of farmers' markets. *Sociologia Ruralis* 44, 395-415.
- Kneafsey, M., Ilbery, B. and Jenkins, T. (2001) Exploring the dimensions of culture economies in rural west Wales. *Sociologia Ruralis* 41, 296-310.
- Le Heron, R. (1993) *Globalised agriculture: political choice*. Pergamon Press, Oxford.

Lockie, S. and Halpin, D. (2005) The 'conventionalisation' thesis reconsidered: structural and ideological transformation of Australian agriculture. *Sociologia Ruralis* 45, 284-307.

Marsden, T., Banks, J. and Bristow, G. (2000) Food supply chain approaches: exploring their role in rural development. *Sociologia Ruralis* 40, 424-438.

Maye, D. and Ilbery, B. (2006) Regional economies of local food production: tracing food chain links between 'specialist' producers and intermediaries in the Scottish-English borders. *European Urban and Regional Studies* 13, 337-354.

Maye, D., Holloway, L. and Kneafsey, M. (eds.) (2007) *Alternative food geographies: representation and practice*. Elsevier, Oxford.

Parrott, N., Wilson, N. and Murdoch, J. (2002) Spatializing quality: regional protection and the alternative geography of food. *European Urban and Regional Studies* 9, 241-261.

Phyne, J. and Mansilla, J. (2003) Forging linkages in the commodity chain: the case of the Chilean salmon farming industry, 1987-2001. *Sociologia Ruralis* 43, 108-127.

Sustain (2003) *Sustainable food chains*. Sustain – the alliance for better food and farming, Bristol.

Ward, N., Jackson, P., Russel, P. and Wilkinson, K. (2008) Productivism, post-productivism and European reform: the case of sugar. *Sociologia Ruralis* 48, 118-132.

Watts, D., Ilbery, B. and Maye, D. (2005) Making re-connections in agro-food geography: alternative systems of food provision. *Progress in Human Geography* 29, 22-40.

Whatmore, S. (1995) From farming to agribusiness: the global agro-food system. In: Johnston, R., Taylor, P. and Watts, M. (Eds) *Geographies of global change*. Blackwell, Oxford, 36-49.

Winter, M. (2003) Embeddedness, the new food economy and defensive localism. *Journal of Rural Studies* 19, 23-32.

Table 1 Distinctions between ‘conventional’ and ‘alternative’ food supply systems

<u>Conventional</u>	<u>Alternative</u>
Modern	Post-modern
Manufactured / processed	Natural / fresh
Mass (large-scale) production	Craft / artisanal (small-scale) production
Long food supply chains	Short food supply chains
Costs externalised	Costs internalised
Rationalised	Traditional
Standardised	Difference / diversity
Intensification	Extensification
Monoculture	Bio-diversity
Homogenization of foods	Regional palates
Hypermarkets	Local markets
Agrochemicals	Organic / sustainable farming
Non-renewable energy	Re-usable energy
Fast food	Slow food
Quantity	Quality
Disembedded	Embedded

(Source: based on Ilbery and Maye, 2005a)

Table 2 Criteria of 'sustainable food'

1. Proximate
2. Healthy
3. Fairly/cooperatively traded
4. Non-exploiting
5. Environmentally beneficial
6. Accessible
7. High animal welfare standards
8. Socially inclusive
9. Encouraging knowledge and understanding

(Source: based on Sustain, 2003)