



Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders

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Received 11 March 2004; received in revised form 25 May 2004; accepted 4 June 2004

Abstract

Despite an increasing interest in more sustainable forms of land management, few analyses have examined whether ‘local’ or ‘alternative’ food supply systems are sustainable in environmental, economic and social terms. Using SUSTAIN’s ‘sustainable food’ criteria, this paper analyses the sustainability of a number of ‘speciality’ food supply chains operated by small rural enterprises in the Scottish/English borders. Results indicate that, in the main, the case study businesses are not particularly sustainable; instead, driven by a strong economic imperative, they often have to ‘dip’ into various ‘links’ associated with more conventional (commodity-based) food supply chains. The paper concludes by warning against the tendency to conflate terms such as ‘local’, ‘alternative’, ‘speciality’ and ‘sustainable’.

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Keywords: Sustainability; Food supply chains; Speciality foods; Case studies; SMEs; Scottish/English borders

Sustainable agriculture and ‘local’ foods

The recent interest in sustainable agriculture and agri-environmental programmes in the UK and Europe represents a dethroning of agricultural fundamentalism that was established through the Scott Report back in the early 1940s (Ilbery, 1992; Potter, 1998). In this report, farmers were seen as the natural custodians of the countryside¹ and it was (wrongly) assumed that a prosperous agriculture would automatically ensure conservation of, and access to, the countryside (Bishop and Phillips, 1993). This has clearly not happened because over the past 50 years or so agricultural conservation and sustainable farming practices have not been prioritised (see Cobb et al., 1999). Instead, the agro-food system has undergone significant modernisa-

tion and mechanisation, a process heightened by the rise and increasingly monopolistic power of large-scale food processors and retailers who seek to control most parts of lengthening and globalising food supply chains (Barrett et al., 1999; Poole et al., 2002). A major consequence of such developments has been the increasing *disconnection* between farming and food and thus between farmers, the traditional producers of foodstuffs, and final consumers.

In response, the last decade or so has witnessed unprecedented critical scrutiny surrounding the nature and development of contemporary systems of food provision, reflecting in part increasing societal concerns over the environmental and food safety/health dimensions of industrialised farming practices. While such concerns were probably at their peak during the 2001 foot and mouth disease (FMD) outbreak in Britain, they have been engendered by a succession of previous food scares stretching back to salmonella in eggs in the 1980s and links with BSE and the human disease variant CJD in the 1990s (Winter, 2003a). Three notable and recent developments have arisen out of this discomfort: the

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¹The Scott Committee of 1942, established to examine land utilisation in rural areas, famously noted that ‘farmers are unconsciously the nation’s landscape gardeners’ (Potter, 1998, p. 87).

turn to more sustainable farming methods; the creation of ‘local’ and ‘shorter’ food supply chains; and new forms of discerning and reflexive consumerism (Lang, 1999; Marsden et al., 2000; Cone and Myhre, 2000; Bowler, 2002; Enticott, 2003; Fish et al., 2003; Morris and Buller, 2003; Weatherell et al., 2003; Winter, 2003b).

The first of these developments is focused on agricultural (production) and sustainable land use practices. The emphasis is on changing the farming process; this can take place in different ways, including the radical modification of production systems to achieve sustainability (e.g. organic farming; Ilbery et al., 1999) or the modification of existing systems to reduce their environmental impact (e.g. integrated farming; Morris and Winter, 1999). It can also involve the use of farm management practices that maintain, enhance or recreate environmental features on the farm (e.g. hedges, woodland, walls and ponds). To date, much debate about sustainable agriculture has centred on the farm, the farmer and the (agri-environmental) impact of different land use practices (see Brklacich et al., 1990; Cobb et al., 1999; Fish et al., 2003). In contrast, the two other developments (shorter food supply chains and reflexive consumerism) are more recent and relate to the renewed focus on local food and drink products,² typically constructed around notions of quality, territory and social embeddedness (Ilbery and Kneafsey, 2000; Murdoch et al., 2000; Renting et al., 2003). In this context, sustainability is seen in terms of the wider agro-food system, especially the vertical linkages in the food supply chain beyond, but including, the farm. Emphasis on sustainable food chains is an important departure because, as Cobb et al. (1999, p. 209) recognise: ‘the food chain as a whole is the ultimate framework for a scrutiny of sustainability’.

Interest in local foods and sustainable food chains is usually recognised as a response to the already noted agro-food de-stabilisations, and typified by the growth in food purchases from outlets such as farmers’ markets, box and food link schemes, farm shops, home deliveries and community supported agriculture (Festing, 1997; Cone and Myhre, 2000; Hinrichs, 2000, 2003; Holloway and Kneafsey, 2000; Renting et al., 2003). Consumers are also significant here, as attention shifts away from price, packaging and appearance and towards obtaining food products that can be traced to particular people and places (Ilbery and Kneafsey, 1998; Murdoch et al., 2000; Weatherell et al., 2003).

²The shift in interest towards more ‘local’, ‘alternative’ or ‘traditional/speciality’ foods has been reflected academically in themed sections and special issues published in *International Planning Studies*, 4 (3), 1999; *Sociologia Ruralis*, 40 (2), 2000; 40 (4), 2000; 41 (1), 2001; 42 (4), 2002; *Journal of Rural Studies*, 19 (1), 2003; *Environment and Planning A*, 35 (3), 2003 and the *British Food Journal*, 105 (8), 2003.

Growth in the ‘local’ food sector (and sustainable rural development more generally) has also been encouraged by the introduction of the Rural Development Regulation (1257/99) in the European Union (EU). Under this ‘second pillar’ of the Common Agricultural Policy (CAP), the aim is to broaden rural policy away from a narrow focus on agriculture and towards a more integrated and territorial approach (Lowe et al., 2002). While economic objectives are still very important, social, cultural and environmental dimensions of rural development are also promoted and seen as significant in moves to encourage economic diversification, agri-environmental schemes, and the local processing and marketing of agricultural products (Banks and Marsden, 2000). For some researchers, these collective developments signify the emergence of a new ‘ecological paradigm’ for rural development, leaving behind agricultural modernisation to create a more multifunctional rural space (Ploeg et al., 2000; Potter and Burney, 2002; Goodman, 2004). These developments have been continued through the Mid-Term Review of CAP³ (2003), with further proposals relating to, for example, decoupling, modulation, cross-compliance and regional payments.

The Curry Report (2002), published in Britain in the aftermath of the 2001 FMD outbreak, captures these food chain developments well. It first describes England’s food and farming industry as ‘unsustainable in every sense of the term’ and ‘detached from the rest of the rural economy and the environment’, and then emphasises the need to:

‘Reconnect our farming and food industry; 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’ (Curry Report, 2002, p. 6).

Within this report, local foods (or foods with a regional provenance) offer an important opportunity for farmers to add and retain value to produce (Curry Report, 2002, p. 43). Here, and elsewhere (e.g. Council for the Protection of Rural England (CPRE), 2001; Sustain, 2000, 2002; Pretty, 2002), local food supply chains assume a more sustainable option—a means of getting biodiversity from farm to plate, of saving energy and reducing food miles, of providing social care and improving civic responsibility, and of retaining economic value in a local economy. On this last point, for example, a study by the New Economic Foundation found that for every £1 spent at a local organic box scheme £2.59 is generated for the local economy,

³For a summary of the CAP Reform Agreement, 26 June 2003 see: <http://www.defra.gov.uk/farm/capreform/agreement-summary.htm>.

compared with £1.40 generated by every £1 spent at a supermarket (Boyde, 2001; see also Sacks, 2002).

Nevertheless, the term ‘sustainable development’ is socially and politically constructed, just as ‘sustainable agriculture’ is a slippery and broad-ranging term (for a full discussion, see Cobb et al., 1999; Bowler, 2002 and Robinson, 2004). In launching their ‘Sustainable Farming and Food Strategy’ in December 2002, following recommendations contained within the Curry Report, DEFRA defined ‘sustainable development’ as ‘a better quality of life for everyone, now and for future generations to come’ (www.defra.gov.uk). While similar to the original Brundtland Report definition (Brundtland, 1987)⁴ and simple in principle, it is difficult to achieve in practice because for DEFRA it means meeting four objectives at the same time:

- Social progress that recognises the needs of everyone.
- Effective protection of the environment.
- Prudent use of natural resources.
- Maintenance of high and stable levels of economic growth and employment.

The complexity is increased because as Robinson (2002, p. 185) asks ‘can conservationist ideals within environmental notions of ‘sustainable’ be married to conceptions of development and economic growth?’ Responding to this, one can, tentatively, note two different approaches to sustainable agriculture in the following two institutional discourses on the topic of local foods. In both cases, there is recognition of the need to consider the food supply chain in totality; however, the way in which local foods are positioned, as a sustainable response, is conceptually different. First, DEFRA’s sustainable farming and food strategy espouses an ‘instrumentalist’ approach that seeks to achieve ‘mutually reinforcing benefits’ for:

- The *economy*, in terms of efficient producers, enhanced incomes and less burden on the taxpayer.
- The *environment*, in terms of conserving natural resources and maintaining biodiversity.
- *Society*, in terms of better health, high animal welfare standards and stronger rural communities.

The ‘instrumentalist’ approach is thus concerned with adaptations to existing farm practices that seek to reduce increasingly unacceptable externalities (see Bowler and Ilbery, 1993). For DEFRA, therefore, local food chain activities (e.g. direct food marketing, on-farm food processing) are sustainable adjustments within the

⁴The term *ecologically sustainable development* is central to the Brundtland Report: development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Robinson, 2004, p. 227).

Table 1
‘Sustainable food’ criteria

<i>Proximate</i> , originating from the closest practicable source or the minimization of energy use
<i>Healthy</i> as part of a balanced diet and not containing harmful biological or chemical contaminants
<i>Fairly or co-operatively traded</i> between producers, processors, retailers and consumers
<i>Non-exploiting</i> of employees in the food sector in terms of rights, pay and conditions ^a
<i>Environmentally beneficial</i> or benign in its production (e.g. organic)
<i>Accessible</i> both in terms of geographic access and affordability
<i>High animal welfare standards</i> in both production and transport
<i>Socially inclusive</i> of all people in society
<i>Encouraging knowledge and understanding</i> of food and food culture

Source: SUSTAIN (www.sustainweb.org).

^aModified to mean the employment of local people.

current agro-food system.⁵ Second, adopting a more ‘idealistic’ approach and representing over 100 national public interest organisations working at international, national, regional and local levels, SUSTAIN (the alliance for better food and farming) advocates ‘food and farming policies and practices that enhance the health and welfare of people and animals, improve the working and living environment, promote equity, and enrich society and culture’ (www.sustainweb.org). In their ‘sustainable food chains’ project,⁶ SUSTAIN see ‘sustainable food’ as meeting nine criteria (Table 1). These criteria, which are not fully defined, revolve around the development of ‘alternative’ and short food supply chains (SFSCs) and range from being environmentally beneficial and accessible to maintaining high animal welfare standards and being both healthy and socially inclusive. The ‘idealist’ approach thus offers a direct challenge to the dominant agro-industrial structure of agriculture, with local foods seen as part of a more socially just and environmentally sustainable alternative.

Both of these institutional discourses on sustainable development and food chains are laudable in sentiment; however, the reliance on the shortening of food supply chains in terms of both distance and the number of nodes is not unproblematic. This paper offers a critique of recent literature on SFSCs and questions the

⁵In a previous food chain response, DEFRA, in 1999, established the Food Chain Group, with a range of actors from the food supply chain, to help ‘reconnect’ farmers, manufacturers, retailers and consumers and enhance (economic) industry competitiveness. For details see: <http://www.defra.gov.uk/foodrin/fdchain/fdchain.htm>.

⁶The Sustainable Food Chain project tackles three policy themes: local food economies, food miles and public procurement. The project is one of six that SUSTAIN run under their ‘sustainable food’ umbrella. The others are: Food Poverty, Grab 5! Promoting Fruit and Vegetables, London Food Link, Food Labelling and Marketing, and Urban Food Systems (Source: Personal interview with SUSTAIN’s Sustainable Food Chain Project Officer, 24 April 2003).

sustainability of certain local food supply systems. It begins by outlining different types of SFSC and some of the problems in its conception, especially in relation to notions of sustainability. These conceptual arguments are then demonstrated with reference to particular ‘traditional/speciality’ food supply chains in the Scottish/English borders. Crucially, the paper focuses on one particular aspect of the local food economy—quality food production. As noted above, this is a central focus of ‘new’ forms of food production, especially in regions that have remained marginal to industrial agriculture (see Ilbery et al., 2004). On the basis of the presented empirical evidence, the paper finishes by warning against the tendency to conflate terms such as ‘local’, ‘alternative’, ‘speciality’, ‘quality’ and ‘sustainable’.

Short food supply chains, quality and social embeddedness

Understanding what happens at each stage of the food supply chain, from the farm to the consumer, is important in what are variously and inconsistently being referred to as ‘local’, ‘alternative’ and ‘traditional/speciality’ agro-food systems. A number of authors have conceptualised this process through the notion of SFSCs (Marsden et al., 2000, 2002; Renting et al., 2003). Following Marsden et al. (2000), three types of SFSC can be recognised:

- *Face-to-face*, where consumers buy a product direct from the producer/processor on a face-to-face basis.
- *Spatially proximate*, where products are sold through local outlets in the area and consumers are immediately aware of its local nature.
- *Spatially extended*, where products are sold to consumers who are located outside the local area and who may have no or little knowledge of that area. Here, the key is to use product labelling and imagery to transfer information about the production process and the area to the consumer (Ilbery et al., 2003).

In all cases, the key characteristic is that foods reach the final consumer having been transmitted through a supply chain ‘embedded’ with value-laden information concerning the mode of production, provenance and distinctive quality assets of the product (Renting et al., 2003). In many cases, the number of nodes between the primary producer and the final consumer will also be minimised. From a sustainable (rural) development perspective, this ‘re-spatialisation’ of food supply chains provides necessary opportunities for food SMEs to retain added value in the region, improve employment benefits, strengthen regional imagery and help other local industries (e.g. tourism).

However, problematically, this conceptualisation of SFSCs ignores important ‘upstream’ dimensions of the

chain itself and assumes that the starting point is the primary producer. If upstream inputs are coming from conventional suppliers and/or from outside the local area, this in turn raises question marks about the alternativeness and sustainability of local food products. In similar fashion, one could be forgiven for questioning how spatially extended SFSCs differ from conventional food chains. For example, even if the number of nodes is reduced, there is little discussion about how and by whom the product is transported to the end consumer. With growing interest in Internet sales, cutting the number of nodes in the food chain does not automatically reduce the distance over which these ‘alternative’ foods have to travel, thus raising the environmental issue of food miles normally associated with conventional food chains. For many small-scale, ‘alternative’ producers, economic necessity may prohibit reliance on SFSCs and encourage a mixing of alternative (short) and conventional (long) chains, characterised by complex combinations of upstream and downstream elements. This in turn questions the (admittedly) optimistic view that ‘new local and regional assemblages or associations, particularly along food supply chains, may be one significant way of developing a more ecologically grounded rural/regional development trajectory’ (Marsden et al., 1999, p. 300).

Two further concepts are relevant to debates on sustainability and ‘new’ food supply chains: quality and social embeddedness. The ‘turn to quality’ associated with ‘local’ or ‘alternative’ agro-food systems can, as noted in the introduction, be interpreted as a process accredited to consumer reflections about food safety and standards, environmental problems caused by industrial food chains, animal welfare issues and unfair trade. However, it is far from clear whether it is the ‘quality’ or ‘local’ dimension that is more important in alternative food supply systems (e.g. Enticott, 2003; Weatherell et al., 2003; Winter, 2003b). For example, espousing the concept of ‘defensive localism’, Winter (2003b) suggests that the turn to local is more important than a turn to quality based on, for example, organic or ecological principles. This in turn raises questions about the sustainability of local food supply systems, especially as ‘local’ in this sense can cover different forms of agriculture, including conventional.

The concept of social embeddedness suggests that economic behaviour is mediated by a complex web of social relations. Thus, in relation to local (alternative) foods, both economic (e.g. price, markets) and social (e.g. local ties, trust) factors are important for success and sustainability. Interaction between producer and consumer, especially through forms of direct marketing, can be seen in terms of acknowledgement, respect and friendship, or what Sage (2003) described as the ‘geography of regard’. Nevertheless, one has to be careful not to assume that social embeddedness relates

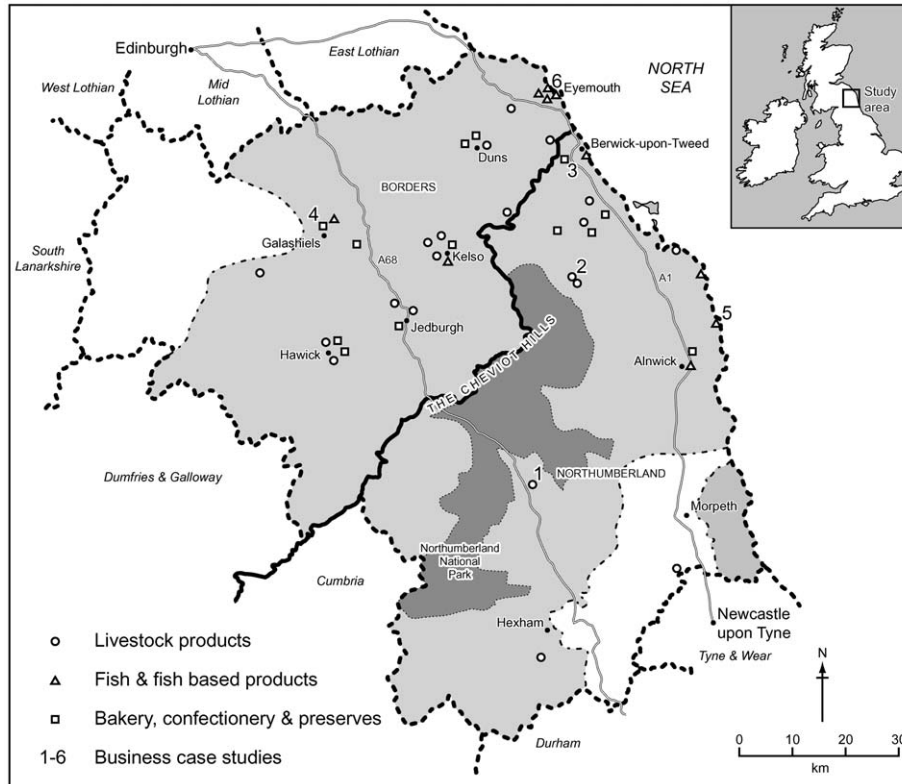


Fig. 1. The Scottish-English borders region and sampled food businesses.

just to alternative food systems. As Winter (2003b) has demonstrated, all economic relations are socially embedded in a range of contrasting ways and so there are different degrees of social embeddedness in both conventional and alternative food supply systems. Likewise, one has to consider the essentially economic nature of business development in local or alternative agro-food systems and recognise that a 'focus on embeddedness can inadvertently produce an overly benign view of economic relations and processes' (Sayer, 2001, p. 698). As the same author continues, 'such embedding is often strongly adapted to the system pressures of market forces' (p. 698). So, while local food economies may be fuelled by interpersonal ties, trust and reciprocity, they will carry undercurrents determined by relations of power, inequality, conflict and personal gain (Hinrichs, 2000; Goodman, 2003). Overall, therefore, alternative agro-food systems will be characterised by different, perhaps contested, social relations, depending upon the type of entrepreneur and their experience of and attitude towards local food supply chains.

Food supply chains in the Scottish/English borders region

There is clearly some debate about the extent to which food supply chains, especially those developed by small

and medium-sized enterprises (SMEs), are truly sustainable. This view is now further developed in an examination of specific supply chains in the Scottish/English borders. As part of a much larger research project on food supply chains in selected lagging regions of the EU,⁷ in-depth interviews were conducted with 43 SME food producing businesses from the dedicated/specialist sector of the food supply system in the Scottish/English border region (Fig. 1). These 43 producers were selected from three broad product types that typify the study region: livestock products; bakery, confectionery and preserves; and fish and fish based products (Table 2). Consequently, and importantly from a rural development perspective, the sample included both farm-based and other rural SMEs. Two of the producers from each category were then chosen for detailed case study work, with repeat visits and discussions over a period of 2 years. It is these six case study producers that form the main basis of this paper as they provide a detailed analysis of individual business supply chains and their changing nature over time.

However, it is first important to highlight a few features about the selection and characteristics of the 43 sampled businesses. The sample of producers was

⁷SUPPLIERS (Supply chains linking food SMEs in lagging rural regions in the European Union).

Table 2
Product sectors and key characteristics

Sector	Product range	Key features identified by producers
Livestock products (20)	Beef, lamb, pork, game, ostrich, cheese, yoghurt, cream, ice cream, eggs	Free-range, traditional breeds, organic, local products, traceable, good animal welfare, unique or novel products, 'natural' ingredients, traditional production methods, handmade, healthy food
Bakery, confectionery and preserves (13)	Honey, honey mustard, breads, cakes, biscuits, spiced fruits, chutneys, jams, curds, jellies, vinaigrette	Organic, homemade, gourmet, traditional production methods, high quality ingredients, local, no added colours or flavourings
Fish and fish based products (10)	Farmed trout, fresh salmon and trout, eels, shellfish (e.g. prawns, crabs, lobsters, scallops, winkles), kippers	Fresh, 'live', natural, approved fishing methods, unique products, traceability, continuity of product/service

selected through non-random 'purposive' sampling. In particular, use was made of both the two counties' (Northumberland and The Borders) local food and drink directories and advice from a specially constituted Consultation Panel of key agency members in the region. While it is possible to question the extent to which all entries in the directories are specialist food businesses, they were included because of their perceived local focus and for not being part of conventional commodity chains. A degree of 'snowball' sampling was also used, whereby selected producers were asked to identify other specialist businesses within the region (Kitchen and Tate, 2000). All businesses interviewed were SMEs and the majority could be classed as micro enterprises employing less than 10 people. Family ownership was dominant and, while some businesses had been in operation for many years, a significant number, especially in the livestock sector, had started after 1990. Indeed, for some of the livestock producers, this was a new venture and their first experience of farming. Most producers were motivated by factors such as family tradition, producing a quality product, passion and interest, and a means of diversifying and adding value. Entrepreneurial spirit and drive characterised the more progressive businesses as they looked for new ideas to expand their activities; in contrast, other businesses were more passive and preservationist, and expansion was not an important dimension of their future strategies.

This section now continues with short, descriptive cameos of the six progressive case study businesses. These cameos were 'built up' over a 2-year period and are not based on a 'snapshot' at any one point in time; indeed, the businesses are in a constant state of change and the material presented is the result of the last 'update' in February 2004. This more iterative analysis therefore provides a detailed appreciation of supply chain links, whether these links change and why, and the relation to wider debates about local food system sustainability. The next section then focuses more specifically on the upstream and downstream elements

of their supply chains in order to assess whether they can be judged sustainable in terms of SUSTAIN's 'sustainable food' criteria⁸ (Table 1).

Case study 1 (Organic hill meat): This organic farm and on-farm butchery is located in the Northumberland uplands. Established in 1998, the business now employs 4 full-time staff and produces and retails a range of organically reared meat products, using local branding and traceability (Fig. 2). Constructed to add and retain value from primary production, the business now also sources cattle, sheep, pigs and poultry from other organic farms in the region. All livestock are slaughtered at the (organically accredited) abattoir in Whitley Bay and then delivered to the on-farm butchery to be processed and packaged for retail. The meat products are then sold through various SFSCs e.g. direct sales, local/regional specialist food shops and caterers, and mail order. A business website provides excellent information about the business, the farmer, the products and history of the farm and butchery. However, uptake of on-line meat sales has been slow to materialise and the business is less inclined to sell meat products over the Internet. The business has also reduced sales output at farmers' markets and stopped supplying (specialist) butchers in the region; the preference now is for more 'stable' alternatives (independent retail and catering). The entrepreneur is very well networked with relevant institutions, regional food and producer groups, and the regional and national media for promotion and marketing. The business has recently been granted permission to build a new licensed cutting plant, eventually providing a meat cutting service for other farms in the region. Significantly, 10% of business profits are re-invested back into the land through a series of

⁸The SUSTAIN criteria were selected for two reasons. First, SUSTAIN is one of the leading UK agencies on aspects of sustainable development, alternative production and local food supply chains. Second, SUSTAIN literature and press releases make clear the links between sustainable agriculture and local foods. This includes a set of sustainable food and farming indicators that are applicable to the presented case studies.

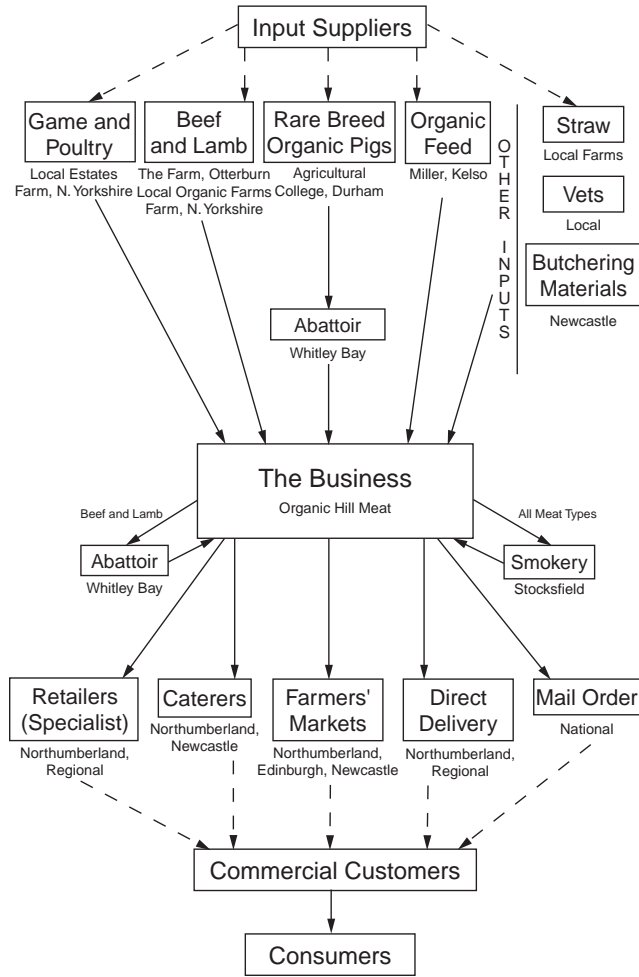


Fig. 2. Business supply chain diagram for organic hill meat producer.

conservation projects (Countryside Stewardship). Nevertheless, much of the generated value added is lost to high distribution costs, reflecting the large distances between the producer and retailers/consumers. Other threats include the closure of the only local abattoir and the relatively low local demand for organic meat products.

Case study 2 (Specialist cheese and ice cream): Located in Glendale Valley, north Northumberland, this dairy farm has been run by the family for over 50 years. The business now employs 16 staff (10 full-time and 6 part-time) and produces a range of unpasteurised farmhouse cheeses (since 1990) and specialist ice creams (since 2000). Food processing is a diversification strategy, adding value and enabling family members to remain working on the farm. On-farm production effectively comprises two separate, but linked, product supply chains (Fig. 3a/b). Both products use milk from the farm’s 180 dairy cows, but other inputs come from a range of local, regional, national and even international suppliers. Once processed, the majority of cheese products are sold to regional and national (specialist)

cheese wholesalers (Fig 3a) e.g. Ian Mellis, Edinburgh; Neal’s Yard Dairy, London/New York. Most ice cream is sold regionally to independent and specialist retailers (some also source cheese), as well as to five regional ASDA stores as part of the latter’s ‘local choice’ food initiative (Fig 3b). The farm has significantly reduced attendance at farmers’ markets as a result of poor sales, logistical problems and cost constraints. The products are cleverly marketed, with the farm’s own range of cartoon characters appearing on the business website, promotional material and ice cream pots. High distribution costs are a weakness of this business, but the major threat relates to any bovine TB scare in the milk herd. To reduce this risk from raw milk cheese production, one possible option is to produce a pasteurised cheese.

Case study 3 (Berwick honey): Established as a hobbyist venture by the current owner’s late father, the farm began trading honey products in 1966. It now employs 14 staff (6 full-time) and is one of the largest commercial honey producers in the UK, with 1750 hives distributed throughout north Northumberland and the Scottish borders. To complement the sale of honey, the farm also sells plain and flavoured honey mustards, as well as candles, polish and cosmetics from the beeswax. With the exception of pottery pots, most other major input supplies (e.g. plastic tubs, pots, jars, mustard and vinegar) are sourced from wholesalers in southern England and one supplier in Denmark (Fig. 4a). The farm sells its products to local, regional and national markets through its farm shop, independent retailers, farmers’ markets and mail order; however, it has a policy not to supply supermarkets. While the farm shop and visitor centre represent a recent development to attract customers, the core of the business is delivery to approximately 300 independent/specialist retailers. Much of this delivery is by means of the business’s two vans, but there is increasing dependence upon couriers. The mail order element is developing significantly (notably for beeswax products), but the key to success is achieving a delicate balance between selling to local retailers and direct selling to the consumer through farmers’ markets and the farm shop. Disease, in the form of Varroa destructor mites that can wipe out bee colonies, is the main threat to the honey farm.

Case study 4 (Galashiels bakery): Formed in 1974, the business traditionally sold through their own shops (10) in the major Border towns. However, since the mid-1990s the supply chain has changed significantly and, as well as retaining its own local outlets and other local delivery points for such speciality products as Selkirk Bannocks and Border Tarts, the business now also supplies frozen products (e.g. apple pie, sticky toffee pudding and banana cake) and long shelf life cakes and biscuits to national wholesalers and 11 Tesco stores in Scotland, including the local store in Galashiels

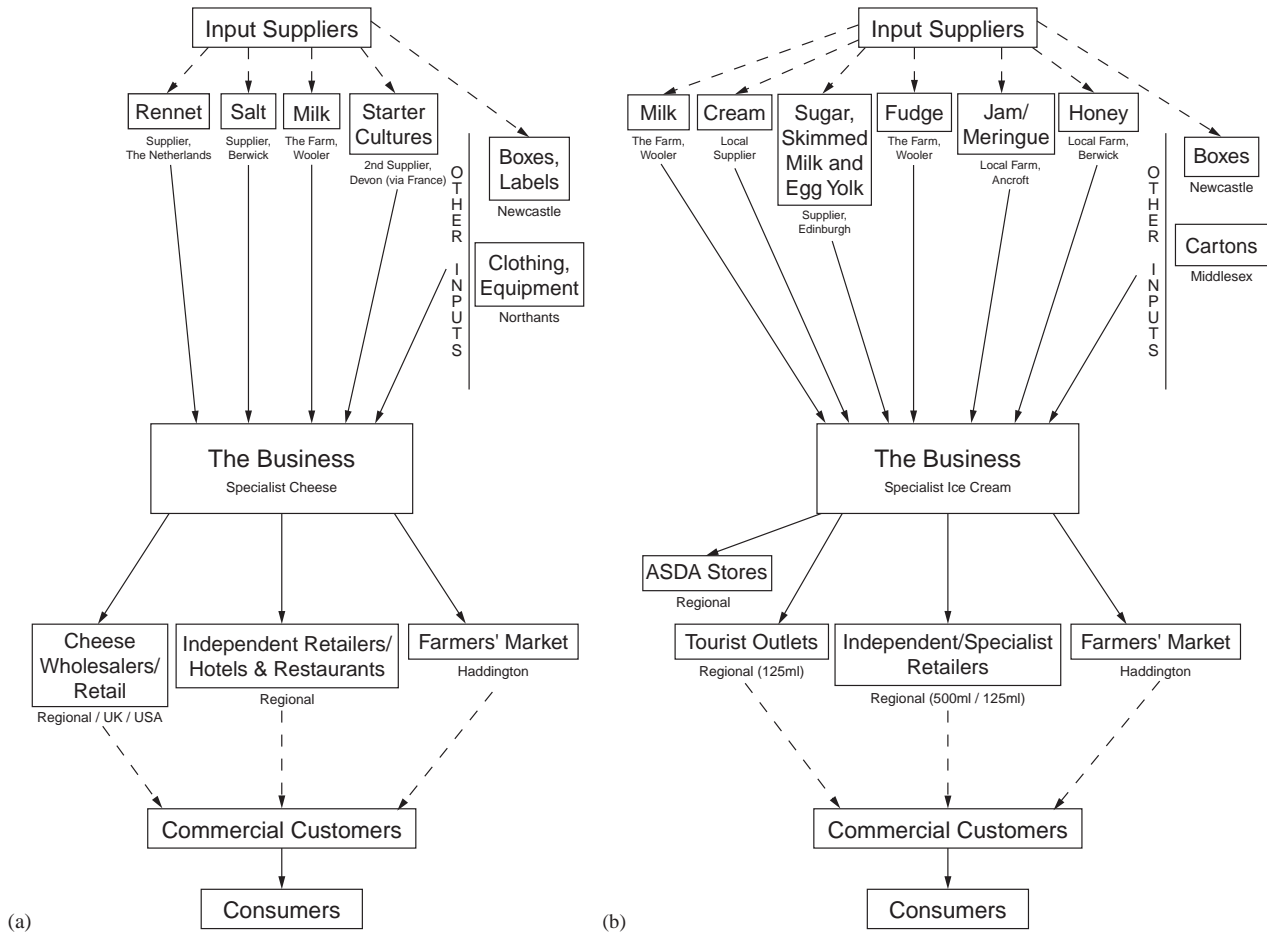


Fig. 3. Business supply chain diagrams for cheese/ice cream producer.

(Fig. 4b). This was in response to a fall in sales in the local bakery sector. While most ingredients are sourced from suppliers in Edinburgh, Newcastle and The Borders, the business has developed a reciprocal trade agreement with a national wholesaler—3663 Ltd. The wholesaler supplies up to 50% of the bakery inputs and purchases all of its frozen products. Despite these links with 3663 Ltd. and other wholesale distributors, selling fresh products in The Borders is still the core of the business. While the professional zeal of the entrepreneur has been crucial to business development, there are concerns over the diminishing local market and the increasing dependence on national suppliers and wholesalers. Clearly, the business, which now employs 80 staff (40 full-time), has been forced to innovate and develop new product lines, and selling bakery products locally is just one part of an evolving and expanding business strategy.

Case study 5 (Craster kippers): Established in 1906, this smokehouse is located in a small Northumberland fishing village and has developed an excellent reputation for kipping. The herring is processed and smoked using traditional salting and smoking methods, and the business has recently developed a kipper pâté. Originally

sourcing herring from the north-east coast, poor product quality and insufficient volume have forced the business to source herring from Iceland, via a subsidiary in Grimsby (Fig. 5a). The business employs 13 staff (10 full-time and 3 part-time) and supplies kippers to a range of regional and national outlets, including independent retailers, the Waitrose supermarket (since 1998) and the Great North Eastern Railway (GNER) company, as well as selling through its own shop and by mail order. A website has been developed to help with the latter, but Waitrose is now the key customer; significantly, the supermarket contacted Craster kippers because of their traditional kipping methods (with no added dyes etc). Today, the Waitrose shopping website tells the story of the Craster kipper—“the home to the traditional smoked kipper”. Distribution problems also figure in this business because much of the output has to be taken on pallets to a cold store in North Shields (40 miles away), ready for onwards delivery by a national carrier to UK fish markets and retailers. The loss of this distribution link and increasing dependence on the Waitrose contract are possible future threats to the business.

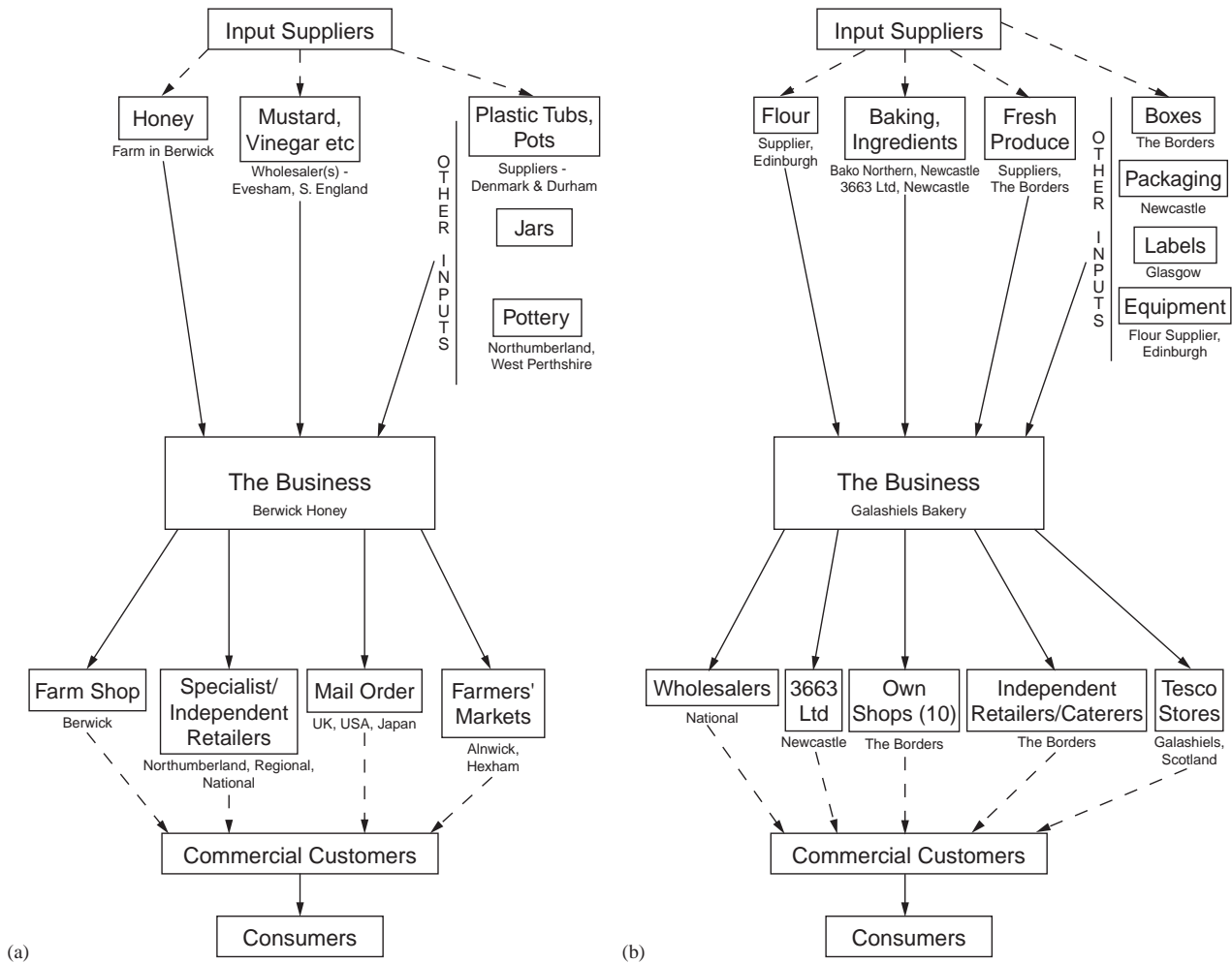


Fig. 4. Business supply chain diagrams for (a) Berwick honey and (b) Galashiels bakery.

Case study 6 (Borders shellfish): This family run fish merchant, established in Eyemouth in 1948, now focuses mainly on the supply of shellfish to European fish markets (Fig. 5b). The business sources prawns from various ports along the east coast, but also uses agents on the west coast of Scotland to supplement inputs; farmed salmon and exotic fish are sourced from Orkney and a European supplier (in Boulogne) respectively. Most secondary supplies (e.g. boxes, ice and metabisulphate) are sourced locally. Collected nightly, the fish are cleaned and graded the next day by the 22 staff (19 full-time) before being palletted and collected by a national carrier for export to Boulogne fish market that night. From there, the shellfish are forwarded to customers (French multiples, wholesalers, independent retailers and caterers) in Spain, Italy and other parts of France. While the business still sells small amounts of fresh fish and shellfish through its factory shop and a few catering and retail customers in The Borders, it would not survive without the better prices offered by the European export markets. The business has a range of different wholesalers, agents and direct contacts in each

country, with good personal relationships the key to success. Although the fish merchant is fortunate to benefit from the national carriers that service the Eyemouth area, the almost total reliance on these distribution links and the European export market are potential future threats to the business.

Assessing food system sustainability

While accepting that each of the above case studies is unique and has developed its own customised food supply chain, it is also fairly clear that they vary considerably in terms of whether and how they satisfy SUSTAIN’s food sustainability criteria. Table 3 provides a checklist of those criteria satisfied by each business. Sustainability judgements are based on detailed re-readings of the case studies, each written up from face-to-face and telephone interview transcripts, as well as written (e.g. brochures) and website materials. Although SUSTAIN’s criteria are open to varied interpretations, it is quite apparent that, with the

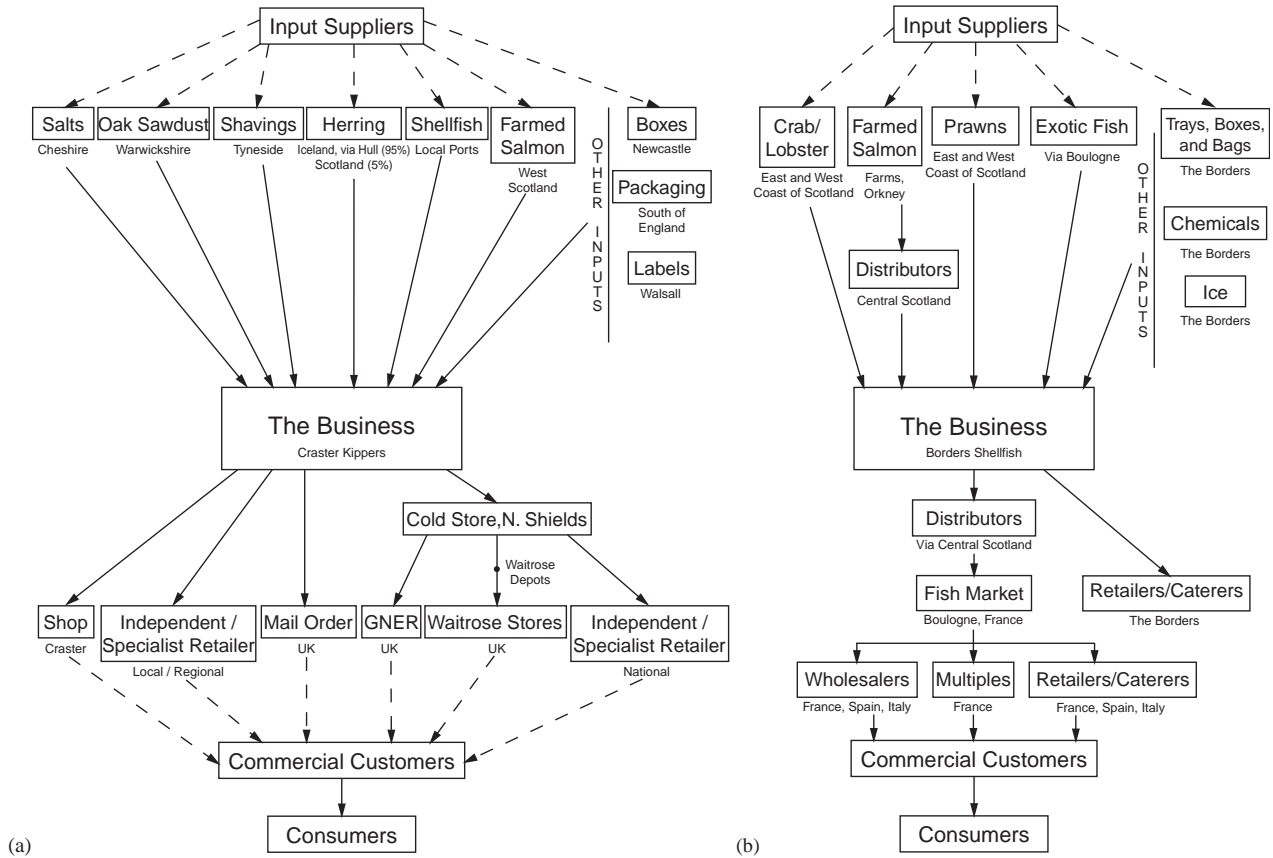


Fig. 5. Business supply chain diagrams for (a) Craster kippers and (b) Borders shellfish.

Table 3
Food sustainability and case study businesses

	Organic hill meat	Cheese/ice cream	Berwick honey	Galashiels bakery	Craster kippers	Borders shellfish
Proximate	✓	×	×	×	×	×
Healthy	✓	✓	✓	✓	✓	✓
Fairly/cooperatively traded	✓	✓	×	×	×	×
Local employment	✓	✓	✓	✓	✓	✓
Environmentally beneficial	✓	×	✓	×	✓	×
Accessible	×	×	×	×	×	×
High animal welfare	✓	×	✓	na	×	×
Socially inclusive	×	×	×	✓	×	×
Knowledge/understanding of food culture	✓	✓	✓	✓	✓	✓
Total (out of 9)	7	4	5	4	4	3

exception of the organic hill meat enterprise, the case study businesses are not particularly sustainable. While each business might claim to satisfy DEFRA’s ‘mutually reinforcing benefits’ for the economy, environment and society in a broad sense, they do less well against more specific criteria. Thus, it is only the organic hill meat business that has anything approaching a sustainable food supply chain. This business satisfies 7 of

SUSTAIN’s 9 food sustainability criteria, if the criterion of non-exploiting of employees is modified to mean the employment of local people; in contrast, the five other businesses satisfy a maximum of just five of the nine criteria.

Looking at SUSTAIN’s food sustainability criteria in more detail, three are satisfied by all six businesses. Thus, they produce *healthy* foods, at least in terms of

using traditional rather than manufactured methods, employ *local labour* in hopefully a non-exploitative way, and very much contribute to the development of the *local food culture*, for example, through attending and supporting local food fairs in the area and participating in local food chain initiatives. Yet crucially, not one of the six businesses can satisfy the *accessibility* criterion, especially in a geographic sense. They all commented upon the problems of operating in a lagging rural region such as low population densities, poor infrastructure, the low demand for speciality products and the large distances that often separated them from their customers. Likewise, only the organic hill meat enterprise, Craster kippers and Berwick honey can claim to be *environmentally beneficial* in terms of production methods, although the last two contribute to the problem of food miles in the sourcing of its inputs (see below). None of the other three can claim real environmental benefits in production methods; while the specialist cheese/ice cream maker farms in an environmentally sensitive manner in terms of hedgerow planting and the encouragement of nesting birds, it does have a large, intensive dairy herd.

In terms of the four remaining criteria, two are satisfied by just one of the six businesses. Thus the organic hill meat enterprise is the only business to satisfy the *proximate* criterion, just as the Galashiels bakery is able to claim that its retail prices are *socially inclusive* of all people. The former business comes closest to being a genuinely short food supply chain (number of nodes and distance), accessing its inputs and marketing its outputs in the local area; it uses sustainability in pursuing an 'economic' strategy. The other five cannot claim to be proximate in the sense of originating from the closest practical source or minimising energy use. Indeed, in terms of upstream supplies both Craster kippers and the cheese/ice cream business either choose or are forced to source inputs from overseas, just as Borders shellfish, Berwick honey and the Galashiels bakery depend upon national suppliers—all contributing to the problem of food miles. Partly in response to low levels of local demand, all five also sell their produce beyond the local area and region. While the organic hill meat business (and Berwick honey) practises high *animal welfare* standards in terms of both production (rearing from own stock) and transport, this cannot be claimed for Craster kippers, Borders shellfish or the cheese/ice cream enterprise. Likewise, it is only the organic enterprise and the cheese/ice cream enterprise that currently practise *fair and cooperative trading* with all of its customers; while the economic imperative is still important to these businesses, they are working alongside and encouraging other local producers and have genuinely cooperative arrangements with (and help) local retail and catering outlets.

Critique and conclusions

This paper has raised a number of issues about the sustainability of food supply chains developed by SME speciality producers. In particular it has questioned the existing dichotomy between 'conventional' and 'alternative' food supply systems discussed by various academics, arguing that considerable blurring exists between them. Speciality food businesses are not necessarily more sustainable and a number of hybrid food systems and spaces have emerged rather than two separate oppositions—'conventional' and 'alternative'. Various points can be made in relation to this hybridisation.

First, the starting point of a SFSC is not the point of production as depicted by some researchers, but a series of upstream suppliers as found in conventional food chains. Five of the six case study examples source inputs from various places, often many miles from the place of production and sometimes from overseas. This places a different perspective on the very notion of a short and thus sustainable food supply chain; indeed, some of the input suppliers are the same as those used by so-called conventional food producers. Even if the number of nodes in the chain is reduced, these SFSCs can still involve considerable distances, raising issues over food miles and economic leakage. Analysis of the downstream links in the case study chains helps to further blur the straightforward distinction between 'conventional' and 'alternative'. For example, 'alternative' producers often have to resort to the use of 'conventional' abattoirs, carriers, wholesalers and commercial customers. Even the organic hill meat producer has to have his animals slaughtered by the only local abattoir in the area before taking the meat back to the butchery for further value added activities. Similarly, Borders shellfish, Craster kippers and the Galashiels bakery are heavily dependent upon conventional intermediaries.

Secondly, the 'dipping in and out' of conventional food supply chains by the six specialist food producers demonstrates the strong economic imperative that necessarily drives small-scale businesses. This is not to suggest that economic imperative undermines social and community dimensions of sustainability. Indeed, such imperatives can have important sustainable values (e.g. providing jobs, encouraging other local producers). Rather, it suggests, as previously noted by Hinrichs (2000), that businesses (like DEFRA), are likely to act 'instrumentally'⁹ to improve competitiveness, economic value and overall control. The case study examples thus demonstrate quite clearly that the key to success is the

⁹In a critical interpretation of embeddedness and local food systems in the US, Hinrichs (2000) highlights the equally important role of 'marketness' (price consciousness) and 'instrumentalism' (self-interested action) in such alternative economic food spaces.

dynamism and personality of the entrepreneur, together with their own network of contacts; they also highlight the very competitive nature of the business environment. Indeed, most of the 43 small-scale producers interviewed as part of the SUPPLIERS project faced some real threats over the future nature and direction of their businesses. Among the case studies producers, there was genuine concern over the risks of an increasing dependence on one major distributor or commercial customer, the possible closure of the only local abattoir and the threat from either a TB scare or Varroa destructor mites. Even if producing a local/organic 'quality' product, it is highly unlikely to succeed unless there is an adequate demand and a well-connected entrepreneur.

In fact, most of the case studies have changed the nature of their supply chain in the course of the SUPPLIERS research. For example, the organic hill meat producer no longer supplies (specialist) butchers because of bad relations and reluctance by shops to obtain organic accreditation; the ice cream maker now supplies ASDA stores as part of the latter's local sourcing initiative; the honey farm has diversified its product range and sells more via mail order; and the Galashiels bakery supplies 11 Tesco stores in Scotland. A number of the case studies have also reduced the volume of product they retail at FMs, bemoaning poor returns, lack of consumer support and saturated competition with other local food producers, especially meat and preserves. Thus, they seek more 'stable' alternatives (e.g. own farm shops, independent retail) and/or continue to supply established, more traditional supply chains. This dynamism and mobility is 'important', particularly for small businesses in a lagging rural region like the S-E borders. In this sense, it becomes difficult to label a case study 'alternative' or 'conventional' as enterprises continually 'dip in and out' of different supply chains, dependent on environmental context, market forces and business development.

Thirdly, a key feature that distinguishes specialist/dedicated food producers from mass food producers is the focus on 'quality'. In this respect, quality may be seen as a catalyst for sustainable development. However, 'quality' is a very contested notion; it is not a spatial phenomenon, neither is it always sustainable. For example, a focus on quality can encourage producers to send their products outside the region and even the country, as evidenced by Craster kippers, Borders shellfish, Berwick honey and the cheese/ice cream maker. Conversely, for other producers quality is not sufficient on its own and they are prepared to complement quality production with the production of conventional products to specification; Galashiels bakery is a very good example of this. Even the organic hill meat producer uses his sustainable 'quality' product as an economic strategy. Thus, economic necessity and

survival often have to override any ideological stance towards environmental and social dimensions of sustainability.

Fourthly, there is an increasing tendency to readily conflate terms such as 'local', 'speciality', 'quality', 'alternative' and 'sustainable', all part of some oppositional camp to agro-industrial production. If one accepts the more likely position of hybrid food geographies, one must also accept the problem with using these actually very different terms in such a manner. Throughout, this paper has echoed a slight unease with such unproblematic application. In this respect, SUSTAIN's sustainability criteria provided a framework for analysis and also a tool for critique. In ascribing each case study supply chain with 'sustainability scores', one can assess business performance and also reflect on the methodological process itself. However, the latter proved to be somewhat arbitrary and conflicting. What, for example, is meant by the term 'high animal welfare standards'? Assumptions aside, the criteria are limited in their descriptive detail, with potentially varied interpretations of what they mean and how they relate to sustainable food chains overall. Similarly, what are 'socially inclusive', 'accessible', 'proximate' and 'healthy', and how do they fit together (or should they)? Accepting SUSTAIN's idealist position and tendency to be all-inclusive in defining sustainable food chains, the rhetoric is actually in danger of confusing, rather than assisting, debates on food supply chains and sustainability.

On reflection, one can also critique the word 'speciality' ascribed to the case studies and, in turn, whether it is right to presuppose that the businesses should have 'shorter', more 'sustainable' food chains. The common thread for the six case study businesses is that they are food SMEs operating in a lagging rural region, which itself creates significant pressures, notably in terms of physical infrastructure, access to local markets and product demand. In some way, they have also become associated with the local speciality food economy. This last point is crucially important because it would be interesting to trace how these local food businesses became 'enrolled' into the quality food scene and thus assumed to espouse a degree of sustainability. As noted at the beginning, the authors selected businesses on the basis of their inclusion in local specialist food and drink guides, regional food groups and so on. Yet, one must also remember that this is a marginal region with a limited number of food businesses. Consequently, both the food and drink guides and the institutional bodies that designed them (like SUSTAIN) are eager to promote a certain sustainability message: local business development, engendered and associational economic activity, and a gastronomically vibrant region. But, beneath this rhetoric lies a very significant problem about the nature

and composition of speciality food and drink guides—the criteria upon which businesses are selected are often unclear and ill-defined.

The detailed case studies, and the wider producer sample, support the above critique. For example, both livestock businesses have diversified as a consequence of pressures in the agricultural sector, and both produce specialist food products as part of an alternative business strategy. However, in three of the other four non-farm case studies the ‘specialist’ label is much less clear. For instance, Craster kippers and Borders shellfish are both producers of high value commodities, sold on national and European markets. These traditional businesses have developed and evolved over a number of years, with the speciality label attributed not so much by the producer but more by regional and local institutions eager to involve them in the region’s speciality food sector. In this sense, it is perhaps not surprising to find business supply chains that are not especially ‘short’ or ‘alternative’. This highlights the significant danger of conflation and attribution, and also the weakness of present SFSC definitions to account only for on-farm development and reorganisation.

Moreover, new policy measures such as the Processing and Marketing Grant (PMG) scheme and the Rural Enterprise Scheme (RES), designed to assist the development of local/quality foods and introduced in England under the England Rural Development Programme, need to be aware of the danger of over-supporting the same kind of farm-based initiative.¹⁰ Businesses in the Scottish/English borders have also benefited from grants made available through the FMD recovery programme and are likely to be significantly affected by the 2003 CAP reforms. Thus the producer businesses surveyed all bemoaned the emergence and continual financial support for more on-farm shops, on-farm butcheries, and the significant demise of more of the study region’s farmers’ markets and traditional independent retail outlets.¹¹ The conclusion is that already too many (similar) on-farm businesses have saturated the local food market, both for established ‘new’ quality food producers and more traditional food and retail businesses. What is needed is more ‘joined up’ funding to support key producers (already active in the sector) to further develop and encourage co-operative

working. At present, continued support, on a farm-by-farm scale, may augment the assumption that on-farm selling and direct retail (like Pick Your Own in the 1980s) is a ‘novelty economy’, designed to fill the initial post-FMD ‘what now’ vacuum, rather than a long-term strategy to engender sustainable land use and economic recovery.

Finally, it would appear that the reconnection between food producers and food consumers, as advocated in the Policy Commission report on the Future of Farming and Food (*Curry Report, 2002*), will not happen through the development of speciality and niche market food products alone. Other aspects of the local food economy, notably the public procurement of local foods and cooperative/community food schemes, offer much greater potential for the development of food supply systems that are more economically, socially and environmentally sustainable. This will necessarily broaden the focus beyond the farm and primary producer.

Acknowledgements

This article derives from the EU-funded project: ‘Supply chains linking food SMEs in Europe’s lagging rural regions (SUPPLIERS, QLK5-CT-2000-00841). Collaborating laboratories are: SAC, Aberdeen, UK (Co-ordinator); Coventry University, UK; University of Wales, Aberystwyth, UK; Teagasc, Dublin, Ireland; ENITA, Clermont-Ferrand, France; University of Patras, Greece; SIRRT, University of Helsinki, Finland; and the Agricultural University of Krakow, Poland. The authors would also like to thank two referees for their constructive comments.

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¹⁰Other (land use) policies directly or indirectly affecting local foods include the European Agriculture Guidance and Guarantee Fund (EAGGF) Objective 1 and the Agriculture Development Scheme, the EU Protected Food Name Scheme (as a tool for adding value), various LEADER+ projects; there is also funding and support from bodies including Regional Development Agencies, The Countryside Agency and the Meat and Livestock Commission.

¹¹The issue of over-supporting elements of the local food economy (notably farm shops and farmers’ markets) was also highlighted at a SUPPLIERS Policy and Evaluation workshop at One NorthEast (Regional Development Agency), Newcastle, December 2003.

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