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**Explaining regional and local differences in organic farming in England and Wales: a comparison of south west Wales and south east England**

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# Explaining regional and local differences in organic farming in England and Wales: a comparison of south west Wales and south east England

## Abstract

Few studies exist to explain the concentration of organic farming in specific regions of England and Wales. This paper provides a comparative analysis of the development of organic farming in south west Wales and south east England. While the focus in the former is on the use of mainly national marketing channels and the movement of organic produce more than 60 minutes from the farm, in the latter greater use is made of local and direct marketing channels to distribute organic food within 30 minutes of the farm. Such differences are explained in terms of regional demand for organic food, organic heritage and development of an organisational infrastructure. Crucially, these factors coalesce in different ways and in different combinations to develop organic food networks in specific regions. The over-riding importance of demand appears to provide a key explanation for regional differentiation in organic farming.

**Key words:** Organic farming; regional differentiation; south west Wales; south east England; marketing concentration; geographical dispersion; niche fragmentation.

**Word count:** 9891 words

## Introduction

The increasingly globalised agri-industrial food system is unsustainable in economic, environmental and local community terms. It has created structural problems and an inequitable supply of food to the world's population, as well as worries over food safety, diet-related health and increasing distances between the places of food production and food consumption. Such concerns have encouraged a growing interest in the (re)regionalisation of food supply systems (CLARK et al., 2010; DONALD et al., 2010; KNEAFSEY, 2010), with links also to wider discussions within regional geography about the 'making of regions' (see HINRICHS, 2013). As CLARK et al., (2010, 245) observe:

'Regionalisation is offered as a solution to the challenges that both communities and farmers face in our globalised food system'.

In a similar vein, KNEAFSEY (2010, 178) recognises the rising significance of 'alternative' models of local/regional food provision (such as farmers' markets, box schemes and community supported agriculture) which often take the form of 're-spatialised' relationships between food production and consumption. Thus there is growing interest in the development of regional food networks – in which the production, processing, retailing and consumption of food are organised on a more regional basis.

Organic farming is often classified as an 'alternative' form of food provision with potential to contribute to the development of regional food networks. It can make positive contributions to rural and regional

development (ILBERY et al., 2010; LOBLEY et al., 2011), regional food security (HINRICHS, 2013; KIRWAN and MAYE, 2013) and environmental conservation (GABRIEL et al., 2009). Yet, the UK organic sector remains small and demand is met mainly by imports rather than home production. The organic sector is also very unevenly distributed geographically and there is increasing interest in local/regional aspects of organic production and marketing in England and Wales (GABRIEL et al., 2009; ILBERY and MAYE, 2011; LOBLEY et al., 2011 and 2013). Using different forms of statistical analysis, both GABRIEL et al., (2009) and ILBERY and MAYE (2011) highlight the increasing spatial agglomeration of organic farming in particular areas. There is a tendency for organic farming to avoid the arable heartland of eastern England and the east Midlands; instead, three main regional concentrations of organic production can be identified to the west of a line drawn between Bangor in north Wales and Brighton in east Sussex (the Bangor-Brighton line – ILBERY and MAYE, 2011): in south west Wales (notably in Pembrokeshire and Ceredigion), south east England (notably in East and West Sussex) and south west England (notably in Gloucestershire and Wiltshire).

However, explaining spatial differences in the distribution of UK organic farming has proved fairly elusive and relatively little progress has been made since ILBERY et al., (1999, 294) suggested that:

‘A process of spatial concentration seems to be occurring – but there is little understanding of why this is happening’.

In an attempt to provide much needed explanation, GABRIEL et al., (2009) used a predictive model to suggest that organic farming is likely to occur in agriculturally less-favoured areas where economic incentives for conversion to organic production do not need to be high. However, such statistical modelling suggests that the same factors are responsible for the increasing concentration of organic farming in each of the three regions identified by ILBERY and MAYE (2011). This ignores the potential importance of different historical, socio-economic and local factors operating in each region, although GABRIEL et al., (2009) did acknowledge that sociological factors may have contributed to patterns of spatial aggregation. Similarly, CLARKE et al., (2008) warned against developing a ‘one-size fits all’ explanation of regional differences in organic farming and challenged the supposedly localised nature of organic food. Despite this, no attempt has been made to conduct more detailed regional/local research within the specific regions of spatial concentration.

The objective of this paper, therefore, is to conduct a comparative analysis of the factors affecting the distribution and marketing orientation of organic farming in two of the three regional concentrations identified by ILBERY and MAYE (2011): south west Wales and south east England. More specifically, the focus is on the marketing channels used and the importance, or otherwise, of a range of historical and local socio-economic factors. In terms of structure, the next section provides a review of academic literature on geographical aspects of organic farming and conceptualises the potential importance of a number of regional and local influencing factors. This is followed by a short description of the two study areas and an outline of the adopted methodology, especially in terms of indices of marketing concentration and geographical dispersion. The main results are then outlined in a comparative analysis of the two regions, before some general conclusions are drawn.

### Explaining regional and local patterns of organic farming

It is important not to treat organic farming as a single homogeneous category as it is dynamic, diverse and spatially differentiated (SMITH and MARSDEN, 2004). Thus one needs to examine particular organic supply chain dynamics in different regional and local settings (LOBLEY et al., 2013). At a regional scale, GABRIEL et al., (2009: 329) suggest that key influencing factors include lesser-favoured and improved grassland areas, population density and distance from major centres of population. To this list, LOBLEY et al., (2013) have added farm type and size, as well as access to processing and distributional infrastructure, just as ILBERY et al., (1999) and ILBERY et al., (2010) respectively emphasise the role of an organic heritage and varying degrees of marketing orientation. In a Danish context, FREDRICKSEN and LANGER (2004) argue that regional and local concentrations of organic farming could also develop through a neighbourhood effect and the diffusion of organic conversions from a number of initial 'adopters'. This follows an earlier paper by PADEL (2001) and a more recent study by BJORKHAUG and BLESEKESAUNE (2013) who suggest that organic farming can be viewed as the diffusion of an agricultural innovation.

Taking these ideas a little further, RISGAARD et al., (2007) advocate that local (rather than regional) concentrations of organic farming could occur when the adoption of organic practices by one or a few farmers starts to spread to the local community. Also in Denmark, they suggest that isolation and a lack of interaction among organic farmers could prevent an effective operation of the neighbourhood effect. In a more recent statistical analysis in Norway, BJORKHAUG and BLEKESAUNE (2013) identify particularly

strong neighbourhood effects in the development of organic farming in areas with a higher population density and access to consumers. On the basis that 'socio-cultural processes lie behind all emergent economic phenomena', RISGAARD et al., (2007, 454) emphasise the importance of the presence of innovative and champion organic farmers, active official (government) advisors, local farmer organisations/groups, formal cooperative marketing, informal networking, shared beliefs and knowledge transfer in encouraging local and regional patterns of organic farming. In similar fashion, SUTHERLAND and BROWN (2007, 3) claim that concentrations of organic farming could form in response to 'social relationships, information exchange, resource sharing, trust and the negotiation of social norms'. For them, such 'social capital' is most likely to develop in relation to a mixed farming system involving livestock and field crops rather than intensive arable farming, a finding later confirmed by LOBLEY et al., (2013). They also hypothesise that spatial concentration could emerge in the UK if tenants on large landed estates are encouraged to convert to organic farming; in response to local heritage, where individuals established 'alternative' farming systems back in the 1970s; and where there is a strong presence of local markets for organic produce, as found by BJORKHAUG and BLEKESAUNE in Norway (2013).

There is a fairly long-standing view that organic farming markets are 'local' in nature and can help to engender local economic development (DARNOFER, 2005; SEYFANG, 2007; DANTSIS et al., 2009). However, others warn of the dangers of conflating 'local' with 'organic' (LOBLEY et al., 2011 and 2013), just as CLARKE et al., (2008, 220) call for more critical accounts of organic food networks to challenge the 'supposedly localised nature of organic food'. Indeed, LOBLEY et al., (2011, 732) found that, with the exception of organic horticulture:

'Organic farms....are slightly less locally orientated than their non-organic counterparts, with the value of sales accounting for only 20% of the total sales made by organic farms compared to 27% for non-organic farms'.

Using an index of marketing concentration, both ILBERY et al., (2010) and LOBLEY et al., (2013) found that more organic food in England and Wales is marketed through national channels such as organic cooperatives, processors and distributors than through local channels like farmers' markets, box schemes and farm/village shops. While LOBLEY et al., (2013, 10) conclude that 'most organic farmers do

not focus largely or even exclusively on their local markets', they agree with ILBERY et al's (2010, 962) earlier findings that:

'Organic farmers in each region make use of different combinations of marketing channels, both local and national, in increasingly hybridised and individualised supply chains'.

A different conceptual position is adopted by SMITH (2006). Identifying organic farming as a green niche<sup>i</sup> in the prevailing conventional farming regime, he suggests that a process of niche fragmentation is occurring. This consists of two elements: first, the mainstreaming of organic farming and food; and secondly, the attempts by some to renew the niche and move back towards the original organic vision. The increasing use of mainstream marketing channels such as supermarkets by organic producers rather than initial outlets like specialist wholesale shops, local grocers and farm shops led SMITH (2006, 451) to state that 'mainstream actors came to organic food in ways that confounded the whole food origins of the movement'. Thus tensions begin to emerge as some elements of organic farming are being 'conventionalised' by the mainstream. This, in turn, leads to other organic producers to renew the organic niche by refocusing on the use of direct marketing and local marketing outlets. However, attempts to create such a renewed niche met with considerable opposition from the development of large-scale and sometimes national organic box schemes. Smith thus conceptualises the relationship between niche and more mainstream markets for organics as 'dialectic' (SMITH 2006, 456). Nevertheless, he did not consider any spatial dimensions to the process of niche fragmentation and whether regions and/or local areas could be differentiated according to their stage in the development of different organic marketing channels.

The notion of niche fragmentation relates to what has become known as the 'conventionalisation thesis' (see, for example, BUCK et al., 1997; GUTHMAN, 2004; LOCKIE and HALPIN, 2005; ROSIN and CAMPBELL, 2009; LOBLEY et al., 2013). This advocates that organic production is becoming increasingly dominated by conventional patterns of national marketing and distribution. However, GUPTILL (2009), ROSIN and CAMPBELL (2009) and LOBLEY et al., (2013) criticise the conventionalisation thesis for not recognising the diversity of organic farming systems and the various combinations of organic marketing channels found in different geographical regions. Indeed, the development of more complex and individualised organic food supply chains could reduce the potential importance of both the neighbourhood effect and social capital in processes of spatial concentration.

Overall, therefore, one can conceptualise that a range of physical, structural and socio-cultural factors affect the geography of organic farming at regional and local scales in different countries (see Figure 1). Thus physical factors, such as population density and distance from major centres of population, can affect regional patterns of demand for organic food. Similarly, variations in farm size characteristics and the proportion of improved grasslands devoted to mixed farming systems can impact on spatial concentrations of organic farming. The complexity of structural factors such as supply chain dynamics, marketing channels, niche fragmentation and access to processing and distributional infrastructure can also have a bearing on regional and local patterns of organic farming. Finally, a range of socio-cultural factors including a local organic heritage, champion organic farmers, organic farmer networks, shared organic beliefs and knowledge transfer can all encourage a neighbourhood effect and thus local/regional concentrations of organic farming. Crucially, not all of these factors will operate uniformly. As PAASI (2010) and others assert, regions are 'made' by relational networks and connections that reflect different national, regional and local assemblages. For organics, the relative importance of influencing factors will thus vary regionally, meaning that different combinations of factors will be responsible for the concentration of organic farming in specific regions.

---INSERT FIGURE 1 ABOUT HERE---

This conceptualisation highlights the need for more detailed regional and local studies, which is probably best achieved through a comparative case study approach. It is to the case study methodology that the next section of the paper now turns.

#### Comparing the two study areas

The two selected study regions represent quite large farming areas in south west Wales and south east England. Within both regions, the physical conditions for farming are highly varied, taking in a number of upland areas and more intensively farmed lowland areas. While the selected counties in south west Wales (Ceredigion and Pembrokeshire) are generally more pastoral in nature than the selected counties in south east England (East Sussex and West Sussex), both areas are characterised by mixed livestock systems with some crops; there are also pockets of more intensive horticultural production. As Table 1 illustrates, the four counties accounted for 10.2% of all organic farms in England and Wales in 2007, 11.0% of the total organic area and 17.3% of the area in conversion to organic production. While there are relatively small inter-county differences in the percentages of organic farms and area, the range in

terms of the area in conversion to organic production in the four counties is wider – from just 1.3% in East Sussex to 7.7% in Pembrokeshire. The distribution of the 233 organic farms in the south west Wales study area suggests a more concentrated spatial pattern than that found for the 149 organic farms in the south east England study area.

---INSERT TABLE 1 ABOUT HERE---

Another perhaps important difference between the two regions is the proximity of East Sussex and West Sussex to London and the relatively prosperous economy of south east England compared to the more peripheral (both in geographical and economic terms) south west Wales. While south east England recorded the second highest contribution (14%) to the UK's gross value added (after London) in 2010, the whole of Wales had the third lowest contribution, at just 3%. Similar contrasts are also apparent in other regional indicators such as unemployment rates: this was registered at 6.5% in south east England in 2012, whereas it was 8.6% in Wales.

Differences in local food activities in the two study regions have already been identified by RICKETTS-HEIN et al., (2006). Based on six indicators of local food, West and East Sussex rank 12<sup>th</sup> and 14<sup>th</sup> (out of 61 counties) respectively in terms of their final index of food relocalisation; in contrast, Pembrokeshire and Ceredigion could manage only ranks of 26 and 31 (Table 2). Even wider contrasts emerge when separate production and marketing/retailing components of the overall index are examined. Based on the numbers of organic growers, local food producers and local food directories, the four counties score relatively well on the production index, ranging from 5<sup>th</sup> in East Sussex to 10<sup>th</sup> in West Sussex, 11<sup>th</sup> in Pembrokeshire and 20<sup>th</sup> in Ceredigion (Table 2). However, for the marketing/retailing index – based on the numbers of farmers' markets, farm shops and Women Institutes' cooperative markets – the position of all four counties deteriorates; this is more pronounced in south west Wales than in south east England, with Ceredigion and Pembrokeshire ranked as low as 38<sup>th</sup> and 43<sup>rd</sup> respectively (compared to ranks of 14<sup>th</sup> and 29<sup>th</sup> for West and East Sussex) (Table 2). Thus, while all four study counties rank within the top 20 counties in terms of the local food production index, only one remains there for the local food marketing/retailing index. This implies that marketing opportunities for local and organic food are being missed, especially in south Wales.

---INSERT TABLE 2 ABOUT HERE---

## Methodology

To understand the nature of organic farming in the two study areas and the significance of influencing factors, 43 organic farms were selected for in-depth interviews in 2009: 22 in East and West Sussex and 21 in Ceredigion and Pembrokeshire. These numbers represent samples of 14.8% (East and West Sussex) and 9.0% (Ceredigion and Pembrokeshire), and an overall sample of 11.3%. Thus, while the sample may not be truly representative of all organic farms in the two study areas, it is certainly illustrative. Indeed, the sample of organic farms is diverse in terms of farm size, farm type, tenancy status and farming backgrounds. The range in farm sizes is from 2.2 ha to 4500 ha in East and West Sussex and from 1.1 ha to 450 ha in Ceredigion and Pembrokeshire. Both samples reflect well the types of organic enterprises found among the wider populations of organic farms in the two regions. So, while the south east England sample shows a spectrum of farm types, from intensive horticultural production (salad, fruit and vegetables) to livestock farming (dairy beef and sheep) and cereal production, the south west Wales sample demonstrates a stronger bias towards mixed livestock and dairy systems, with smaller amounts of horticultural production. The vast majority of the 43 farms are fully organic and only three (2 in East and West Sussex and 1 in Ceredigion and Pembrokeshire) have more conventional than organic land. Finally, a very high percentage (over 90%) of both sets of farmers is organically certified, either through The Soil Association or Organic Farmers and Growers.

The interview schedule was designed to examine the geography and nature of business relations of the sampled organic farms, as well as the relative significance of the main physical, structural and socio-cultural factors listed in Figure 1. Information was sought on the organic marketing channels used and their travel distances (in time) from the farm, the source of organic inputs, again in time travel distances from the farm, and on the history and perceived development of the organic business over time. Interviewees were asked to state what proportion of their organic produce, in terms of value, is sold through up to 10 different marketing channels<sup>ii</sup>. For ease of application, the direct marketing channel included a single figure for box schemes, farm shops, farmers' markets, farm gate sales and distribution rounds; while recognising that this is a slight weakness of the method, the number of marketing channels had to be kept to a reasonable number. Isochrone maps, which show lines of equal time distance from a farm (COURTNEY et al., 2006), helped interviewees to calculate how much of their produce and inputs respectively are sold and purchased locally (less than 30 minutes from the farm), regionally (30-60 minutes), nationally (over 60 minutes) or internationally (non-UK).

From the gathered quantitative information, indices of marketing concentration and geographical dispersion were calculated for each business. These were based on the Herfindahl-Hirschman index, a commonly used and accepted measure of market concentration (ILBERY et al., 2010; LOBLEY et al., 2013). Thus the index of *marketing concentration* shows the proportion of outputs (by value) sold through each marketing channel; it is calculated by squaring the proportion of organic produce sold through each marketing channel and summing the resulting numbers. So, for an organic business selling 60% to independent retailers, 22% to a marketing cooperative and 18% to an abattoir/processor, the index is calculated as:

$$(0.60)^2 + (0.22)^2 + (0.18)^2 = 0.36 + 0.05 + 0.03 = 0.44$$

Results can range from close to 0 (when an equal proportion of produce is sold through each marketing channel) to 1 (when all produce is sold through just one marketing channel); the closer to 1, the higher the degree of marketing concentration. By squaring the proportion of produce sold through each marketing channel, the index gives greater weight to channels with higher amounts of produce (e.g.  $0.9^2 = 0.81$ , whereas  $0.5^2 = 0.25$ ), thereby accentuating tendencies towards a relatively small number of outlets.

Similarly, the index of *geographical dispersion* shows the proportion of outputs sold and inputs purchased at local, regional, national and international scales. However, this time it is the four travel time zones that are used to make the calculations. Thus for an organic business selling 40% of its outputs locally, 35% regionally and 25% nationally, the index is calculated:

$$(0.40)^2 + (0.35)^2 + (0.25)^2 = 0.16 + 0.12 + 0.06 = 0.34$$

These relatively simple indices made it easier to compare differences in marketing concentration and geographical dispersion both within and between the two study regions.

To help unravel the relative significance of influencing factors in the two study regions, all qualitative interview materials were selectively transcribed; key themes emerged from a re-reading of the resultant manuscripts and these helped to identify meta-level codes for in-depth analysis and more detailed coding – all to provide detailed insights into the main processes operating in the two study areas. The

overall aim is to examine the supply chain geography of individual organic businesses and, ultimately, to understand why, or why not, geographical concentration is occurring and whether different factors are responsible for this concentration in the two regions. The next two sections examine firstly, the degrees of marketing concentration and geographical dispersion exhibited by the sampled businesses and secondly, the factors affecting the varied development of organic farming in the two study regions.

### Organic marketing channels in the two regions

A detailed analysis of the 43 sampled organic businesses demonstrates that often quite complex marketing arrangements are used to sell produce in both regions. Some organic farmers are commodity producers, selling raw products directly to supermarkets, processors and marketing cooperatives such as OMSCo (Organic Milk Suppliers Cooperative) and OLMC (Organic Livestock Marketing Cooperative); they are not trying to either add value and/or sell their produce locally. This is mainly for 'scale and simplicity' (SEE22) reasons or because 'we were always set up to deal with Tesco as continuity of supply and quality are key considerations' (SEE16). A few larger-scale organic producers have been approached, either directly by supermarkets or indirectly by intermediary companies, to supply them with organic produce. In contrast, many smaller organic growers (with notable exceptions) are attempting to produce for the local and/or regional economy and to sell their produce either directly to the final consumer (via farm gate sales, farm shops, box schemes, farmers' markets and delivery rounds) or to independent retailers, catering establishments and other local farmers.

However, a simple binary distinction between national/commodity markets and local/alternative chains is not always useful; in reality, there is considerable 'blurring' or hybridisation and a number of organic producers often combine different types of national and local marketing channels. Thus those selling primarily through national markets also sell small amounts of produce locally, just as those focusing on local markets often use more national channels to dispose of surplus produce. Indeed, some producers feel that local markets are becoming saturated (see below) and are now seeking to complement these with more distant marketing channels. The calculated indices of marketing concentration and geographical dispersion help to identify both contrasts and similarities within and between the two study regions.

Index of marketing concentration The overall (mean) index of marketing concentration shows little difference among the sampled businesses in the two regions: 0.74 for south east England and 0.71 for south west Wales. This indicates a relatively high degree of marketing concentration, although only nine of the 43 businesses marketed all of their produce through just one channel; four using 'local' channels such as independent retailers, direct marketing and another farmer, and five using more 'national' supermarkets, processors and marketing cooperatives. The former (local) are located mainly in West and East Sussex, while the latter (national) favour Ceredigion and Pembrokeshire – indicating initial and notable differences between the two study regions in the marketing behaviour of organic producers.

The index of marketing concentration also shows the dominance of particular marketing channels in each region. So, while marketing cooperatives dominate sales of organic produce in south west Wales (45% of the value of all sales - shown as 0.45 under item 6 of table 3), this reduces significantly in south east England to just 14% (Table 3). Many producers of organic milk and livestock in south west Wales are members of cooperatives and sell their products to OMSCo, Calon Wen (organic marketing cooperative in Pembrokeshire) and Graig Farm (Organic cooperative meat producer group in Powys). Some producers here complained about the difficulties associated with local marketing, including distances from the main population centres and the relatively low demand for organic food. In south east England, different forms of direct marketing, at 27%, dominate overall sales; this compares with a much lower 16% in south west Wales. Independent retailers (10%) and other farmers (13%) are also important in south East England, whereas they hardly figure in south west Wales. This relative dominance of 'local' marketing channels reflects 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.

---INSERT TABLES 3 & 4 ABOUT HERE---

Despite some clear differences in the market orientation of the two regions, one needs to emphasise the considerable variation in use of specific and different marketing channels. This complexity is portrayed in Table 4, which shows how six contrasting businesses (three in south east England and three in south west Wales) have developed quite individualised marketing strategies and sell different amounts of produce through different combinations of marketing channels. Such a situation is well exemplified by a quote from a business selling organic milk through both its own local retail milk round and a national marketing cooperative (OMSCo):

'The milk round accounts for about 10% of our milk, but it is for higher value. Instead of 34p per litre, we get about £1.40 per litre. Having said that, the way organic milk is going we need to pump out volume and get income that way as well' (SEE007).

This varied nature of marketing strategies becomes even more complex when the produce sold, and inputs sourced, are examined in terms of different distance (time) zones from the organic farms.

Index of geographical dispersion The overall (mean) index of geographical dispersion (outputs) again varies little between the two regions: 0.81 in south east England and 0.83 in south west Wales. These figures are higher than those for the index of marketing concentration, indicating an even greater concentration of sales within one particular travel time zone from the farm. Indeed, nearly half of the sample (21 businesses) marketed all of their produce within one particular distance zone: 10 in south east England and 11 in south west Wales<sup>iii</sup>. However, whereas seven of the 10 businesses in south east England (70%) sell all of their produce within 30 minutes of the farm (local), only four of the 11 (36%) in south west Wales do the same. In contrast, the figures for selling produce over 60 minutes (national) from the farm are 30% and 55% respectively. These rather stark differences are highlighted in Table 5. Relatively little produce is sold regionally (30-60 minutes) in either region, but the figures for 'local' and 'national' in the two regions are an almost complete reverse of each other. Thus organic businesses in East and West Sussex sell 53% of their produce (by value) 'locally', whereas Ceredigion and Pembrokeshire sell the same percentage 'nationally'.

---INSERT TABLE 5 ABOUT HERE---

Despite notable exceptions, a generalised picture is emerging that greater use is made of direct marketing and other local marketing channels in south east England to sell a significant proportion of organic produce locally, whereas in south west Wales marketing cooperatives and processors dominate as a majority of produce is sold nationally. Some producers in south west Wales (especially Ceredigion) suggest that marketing local produce is very difficult, with a restricted opportunity to add value. One producer claimed that, 'I would like to sell more in Wales, but selling to local shops is 'bitty' – they charge what they want' (SWW13).

This situation relates to the often small scale of production, lack of suitable local labour, distance from major population centres, lack of local processing capacity for meat and the amount of time and effort to sell produce via farmers' markets. In relation to farmers' markets, for example, one Ceredigion producer is not impressed:

'We have tried selling at farmers' markets, but you can't rely on them anymore. They are just not sustainable, in that the amount of time that goes into them for the amount of sales simply does not stack up. Local outlets like this are all very well but they don't work in rural Ceredigion' (SWW009).

However, comments about the difficulties of marketing through local outlets are not confined to south west Wales and also characterise some of the interviews in south east England. One reason advanced for this is the competition from national 'alternative' forms of direct marketing such as box schemes offered by Riverford and Abel and Cole. As one box scheme producer in East Sussex suggested:

'Boxes have hit the big time, everyone is doing boxes. Now they are operated by national operators and the supermarkets. There is Abel and Cole, Riverford and the local greengrocer in Lewes does boxes – but they are not organic and they are not local. So, our numbers have gone down and that may be due to the competition' (SEE008).

Quotes like this also highlight the difficulties involved in trying to create a renewed organic niche in response to processes of mainstreaming, as advocated by Smith (2006). Indeed, in East and West Sussex some retrenchment away from direct marketing and increasing preference for producer cooperatives was identified. Thus one organic milk producer in West Sussex stated:

'OMSCo have done well to help recover the organic milk market. They are efficient and well-organised, and enable us to shift relatively large volumes of organic milk' (SEE21).

Adding value to produce is often seen as involving much more work and some respondents simply did not have the time and/or capacity to do this. As one yoghurt producer remarked:

‘Making it is easy, selling it is not. Trying to add value is very time-consuming and we would probably be better off selling the raw milk through an organic cooperative’ (SEE005).

Thus it is often cheaper and more efficient not to add value and to sell produce directly to marketing cooperatives and/or processors, often outside the local area.

Turning attention to organic inputs, it soon becomes clear that producers in both regions are often forced, usually against personal desires, to purchase key primary inputs such as seed and feed from outside their own area and even from abroad. This ‘problem’ is often acute for organic livestock feed and cereal/grass seeds and plants. Thus:

‘The availability (especially protein-based) and price of feed is becoming a real threat. Protein crops cannot be grown in this country and we have to get them from China, Italy or wherever we can’ (SEE22).

It is also sometimes difficult for other inputs such as bottles, boxes, packaging and polythene. The (mean) index of geographical dispersion for inputs is less concentrated than that for outputs in both regions: 0.70 in south east England and 0.61 in south west Wales (see Table 5). Just six businesses (four in south east England and two in south west Wales) source all of their input needs from within just one travel time zone from the farm (3 locally, 1 regionally and 2 nationally). As Table 5 shows, there are again important differences between the two regions. Thus, despite a focus on selling locally in south east England, businesses suffer from a relative dearth of local organic input supplies and 60% are sourced from either regional (20%) or national (40%) sources; just 36% are obtained from within 30 minutes of the farm. South west Wales is in a similar position in that it sources 42% of its organic inputs from national sources; however, this is complemented by a much higher proportion (51%) being sourced locally, often through local buying groups (see below). Of course, sourcing inputs through a local supplier, merchant or buying group does not necessarily mean that these inputs are produced locally.

Producers are often forced to go beyond their local area and region to source more specialised inputs. One good example is the purchase, in both regions, of vegetable plants and seeds by organic horticultural producers from specialist providers in eastern England. Apart from the quality of the

product, producers select such suppliers because of price, reliability, availability and trust. Nevertheless, the situation is dynamic in that producers chase down the best offers in order to counter generally spiralling input costs. Indeed, one objective is to reduce dependence on 'bought in' inputs and to produce more requirements on the farm itself; good examples include home-grown cereals and lupins, as well as increasing the red clover content of grass (to increase the protein content of hay and silage).

Overall, therefore, the analysis of indices of marketing concentration and geographical dispersion has shown:

- A much greater use of marketing cooperatives and abattoirs/processors in south west Wales compared to more local marketing channels and especially direct marketing in south east England.
- A much greater tendency to sell produce within 30 minutes of the farm in south east England compared to over 60 minutes in south west Wales.
- A tendency in both regions for producers to source necessary inputs from wherever possible. However, there is a much greater likelihood of producers sourcing inputs via local buying groups in south west Wales than in south east England.

Despite these clear regional differences, examples of individualised and hybridised organic supply chains, often selling outputs and sourcing inputs from different travel time zones from the farm, exist in both south east England and south west Wales. To further explain the differences between the two regions and the combination of factors evident in each, a more qualitative form of analysis is required and this is provided in the next section.

#### The varied development of organic farming in the two regions

This section attempts to provide some explanations of why the factors affecting the development of organic farming in the two study areas vary considerably. A summary of the main suggested differences is provided in Table 6 (see also Figure 1) and these are used to structure the discussion. The first major contrast is socio-cultural, relating to organic heritage and the much earlier establishment of organic farming in south west Wales compared to south east England. In the former, the initial development of organic farming can be traced back to the 1970s when a number of people from non-farming backgrounds, and the south east of England in particular, were attracted to the relatively cheap land

prices and sparsely populated areas of south west Wales to experiment with alternative ways of living. This is often referred to as 'dropping out of the rat race' (CUDJOE and REES, 1992) or 'back-to-the-land' (SMITH 2006), with TOVEY (1997) identifying similar processes in the development of organic farming in rural Ireland. In the latter, organic farming never developed substantially until the 1990s. Indeed, ILBERY et al., (1999) indicate that East and West Sussex started to develop as an area of spatial concentration from the mid-1990s, especially when a number of conventional farmers began to convert to organic farming. This hints at a second main difference between the two study areas: the evolution of organic farms from the outset in south west Wales and the conversion from conventional farming in south east England.

---INSERT TABLE 6 ABOUT HERE---

These initial contrasts also suggest that other socio-cultural factors are significant. Unlike the more recently converting and often geographically 'isolated' organic farms in East and West Sussex, those in Ceredigion and Pembrokeshire are more spatially concentrated with some evidence of what RISGAARD et al., (2007) and BJORKHAUG and BLEKESAUNE (2013) term a neighbourhood effect operating as ideas about organic farming soon spread from the initial 'adopters' into the local community. Unsurprisingly, there was a tendency to develop strong social relationships with each other and to share knowledge and ideas about organic farming through informal networks. Such socio-cultural factors were mutually reinforcing because of a belief in the philosophical principles underpinning the early stages of the organic movement in England and Wales. Indeed, interviewees referred to the important role played by a 'champion' organic farmer whose holding was certified organic back in 1974. This Ceredigion farmer was described as 'one of the driving forces of the organic movement over the last 30 years or so' (SWW8), attempting to stimulate demand for organic food from the major supermarkets and encouraging others to start or convert to organic farming. The general idea of this 'innovator' was that the larger organic producers could supply the supermarket chains while the smaller ones could concentrate on the local market.

The narrative is somewhat different in East and West Sussex. There was less reference to an organic philosophy and those converting to organic farming were, in the main, driven by a stronger economic imperative than in south west Wales. Indeed, some producers had converted from conventional to organic quite recently because of the financial incentives offered under the 2005 Organic Level Stewardship scheme. Interviewed farmers in this region are strongly independent and at least three reported that they would revert to conventional farming as soon as the conditions of their grant would allow; the main reason advocated for this quick change of heart was the 'rapidly rising costs and difficulties of securing primary organic inputs such as feed and seed' (SEE22). Just one of the original organic farmers (SEE13), who converted in the early 1980s, could recall the existence of informal organic meetings and discussions groups; these have long disappeared and the need to be competitive outweighs any potential benefits of cooperation. Interviewees did refer quite frequently to the largest organic grower in East and West Sussex; however, this was often in a negative manner because of its ability to easily outbid others for any land that became available for rental in the area.

Those converting to organic farming in the 1990s did not have the benefit of free government advice that, in theory, those converting in the 1970s did. In such a situation, one might expect a greater reliance on their certifying body for advice and information. However, interviewees in both study areas suggested that, rather than acting as an ambassador and focal point for the organic industry, the certifying bodies are more interested in collecting membership fees and developing regulations than in engendering an organic culture and helping to develop an organic infrastructure in the two regions. Comments such as 'they are only good at marketing and have lost sight of the reality of farming' (SEE22), 'they are empire building' (SEE16), and 'I am very sceptical about the Soil Association' (SWW13) pervaded the interview transcripts.

Given the greater levels of cooperation, spatial proximity and knowledge transfer among organic farmers in south west Wales, there is a more developed and supportive organic organisational infrastructure, in terms of both informal and formal cooperative arrangements, compared to south east England. Thus structural factors contribute to regional differences. One is not referring here to the physical infrastructure of south west Wales, including facilities and communication networks, which are inferior to those in south east England. Neither is it being advocated that the organisation infrastructure in the organic sector in south west Wales is fully integrated and without problems. It is just that organic farming has developed in East and West Sussex in response to a strong local/regional demand and

despite a lack of any real organic organisational infrastructure. Interviews with south west Wales' farmers helped to identify a number of informal and formal organic groups, at different points along the organic food supply chain. These include the informal trading of feed, hay and store cattle among organic farmers, and the formation of a number of buying groups and marketing cooperatives in the area. One example is the Cardi Organic Group, a feeder buying group developed in an attempt to lower the costs of organic feed:

'We buy in feed, which comes from Dorset, because we have formed a buyers' group. Most of us are from Cardiganshire, but we also now have people from Pembrokeshire and Carmarthenshire. It was set up about three years ago and now involves between 20 and 30 farmers' (SWW10).

Reference was also made to Western Seeds in Narberth, Oliver Seeds in Aberystwyth and Arthur Evans in Llandysul, all with experience of sourcing organic inputs, as well as the Pembrokeshire Machinery Ring for both conventional and organic equipment. Abattoirs are available for the slaughter of organic livestock, although one - Welsh Hook Meats in Haverfordwest – has lost its organic licence because of insufficient organic throughput and a failure to keep organic and conventional meat chains separate. Among the organic marketing cooperatives mentioned were Calon Wen in Pembrokeshire, Cambrian Organics near Llandysul and Graig Farm in Powys. Cambrian Organics was started by a group of around 30 local organic farmer members, although it is currently failing because its overheads are too high, in relation to its throughput, and the meat is proving too expensive. This is summarised by the following producer:

'Utilisation of the whole carcass is a big challenge which Cambrian didn't realise. The overhead costs of having the unit were killing it and the whole thing is mothballed at the moment' (SWW09).

Many complained about the lack of organic meat processing capacity in the region and the difficulty of adding value to meat, all stemming from such physical factors as the relative remoteness of the region, the lack of a strong local demand for organic food and the generally small organic farms in Ceredigion and Pembrokeshire. Thus:

‘We are in a rural area, where the population isn’t. There is not a volume of population here, so distance to market is an issue all the time’ (SWW08).

So, while organic farming developed in the region for the reasons already outlined, a lack of local demand and processing capacity means that a considerable amount of organic produce is being transported in a raw state to markets mainly outside Wales. In contrast, the buoyant market for organic produce in south east England is the main catalyst for growth in organic production in East and West Sussex. Despite this, interviewees complained about a lack of any real organisational infrastructure in the organic sector, with producers often having to look beyond the region to purchase inputs and sell outputs. One smaller-scale organic producer in West Sussex summed up the situation nicely:

‘The demand for organic produce is there, but we do not have the logistics or infrastructure to organise it’ (SEE18).

Nevertheless, the strong local demand has encouraged the local marketing of organic produce through different direct marketing channels. While one organic farmer reported working with other organic farmers in the area to try and improve organic processing capacity, and one sourcing local organic produce from other organic farmers to sell through its farm shop, the general impression is one of limited cooperation and local/regional organisational infrastructure in terms of organic buying groups and cooperatives.

A final physical factor relates to the size of organic farms. Most of those moving to south west Wales in the 1970s tended to purchase small areas of agricultural land on which to practise organic farming. Many of these ‘smallholdings’ had been abandoned for a considerable time and thus had not been subjected to intensive farming, making the development of organic farming easier. Some of these small organic farms have developed into larger organic enterprises; however, in general terms they remain smaller than those in East and West Sussex converting to organic farming in the 1990s and beyond.

Thus the main contrasts found between the two study regions are in terms of the extent of an organic organisational infrastructure (reasonably developed but with problems versus completely underdeveloped), local/regional market demand (weak and strong), and the focus on different types of

marketing channels (local versus national). These contrasts are interesting in terms of SMITH's (2006) concept of niche fragmentation. The relative lack of demand for organic food in south west Wales has compelled mainly niche producers to make use of national marketing channels to transport a significant proportion of their output out of the region altogether. Nevertheless, one-third of organic output is still sold locally and so there is evidence of both mainstreaming and niche production in south west Wales. Likewise, in south east England the high percentage of local marketing indicates that the niche is still to fragment significantly, even though certain proportions are sold through national marketing cooperatives and supermarkets. These contrasts suggest that the movement from mainstreaming to niche renewal implied in Smith's notion of niche fragmentation is messy and contingent when examined at a regional scale.

This section has identified some interesting differences in the factors affecting the development of organic farming in the two study regions. However, such differences are rarely that clear-cut and it would be wrong to suggest that regional differences can simply be explained by the almost binary opposites 'set up' in Table 6. Nevertheless, the organic trajectories of the two studied regions are quite different and the contrasts in regional demand for organic food, marketing channels used and organic organisational infrastructure are real enough.

## Conclusions

This paper began by suggesting that, given the differentiated nature of organic farming in England and Wales, its concentration in specific regions cannot be explained by one set of unifying factors. Instead, the paper conceptualised that regional differentiation is due to the operation of different combinations of three sets of factors – physical, structural and socio-cultural – in each region. This proposition has been examined empirically through detailed comparative regional case studies of organic farming, focusing on two regions: south west Wales and south east England. The findings confirm relatively high concentrations of organic farming in terms of indices of marketing concentration and geographical dispersion (outputs). Nevertheless, further analysis reveals that, while the focus in south west Wales is often on the use of national marketing channels to transport organic food more than 60 minutes away from the farm, in south east England it is more on local and direct marketing channels to distribute food less than 30 minutes from the farm. The difficulty of obtaining organic inputs means that farmers in both regions will source them from wherever they can, including from abroad.

While GABRIEL et al., (2009) suggested that such concentrations of organic farming can be explained in terms of similar factors, this research has shown that different physical, structural and socio-cultural factors (see Figure 1) have been operating in the two regions. Thus, while the more recent growth in organic farming in south east England can be explained in part by a buoyant local demand for organic produce in a relatively prosperous regional economy that encouraged some conventional farmers to convert to organic farming and to add value by often selling their produce through a range of direct marketing channels and local outlets, this kind of explanation is inadequate for south west Wales. In the latter, organic farming developed much earlier and its geographical concentration cannot be explained by physical factors such as a high population density and a strong regional demand for organic produce; instead, one has to focus on the importance of a particular combination of socio-cultural (e.g. organic heritage, the sharing of ideas) and structural factors (e.g. a well-organised organic infrastructure in terms of informal and formal networks). The propagation of an organic philosophy by 'champion' farmers helped to stimulate the development of organic farming in south west Wales and the notion of a neighbourhood effect is much more pertinent here than in south east England, where the mainly converting conventional farmers tend to retain their independence and competitive behaviour.

These findings raise further important conceptual questions about ideas such as conventionalisation and niche fragmentation. There is evidence of both operating in the two regions, but the regional dimensions of niche fragmentation, for example, are far from clear. This relates in part to regional differences in the importance of structural factors and especially organisational infrastructure in the organic sector. Thus the organic sector in south east England is closer to the ideals of an original niche because local marketing channels dominate; however, this reflects a high population density and proximity to relatively prosperous centres of population and thus the strong local/regional demand for organic food, encouraging conventional farmers to convert to organic practices, rather than any underlying organic philosophy. In south west Wales, the situation is the other way around i.e. national marketing channels dominate despite a strong underlying organic philosophy and because of low demand. Different factors have therefore encouraged the spatial agglomeration of organic farming in the two regions but the over-riding importance of differences in the demand locally for organic food is a key differentiator between the two regions. In south west Wales, the demand for organic food has always been quite low; organic producers recognised this early on, encouraging them to use their organic heritage, philosophy and local support networks to develop a cooperative culture and mainly national set of marketing arrangements to sell organic food as a niche within the mainstream. In

contrast, the spatial concentration of organic farming in south east England is a response to the physical factors of population density and strong local/regional demand; thus mainly conventional farmers converted to organic systems and added value to their produce through the use of primarily local marketing channels. This has little to do with the organic movement trying to revive the use of local marketing channels as a counter to mainstream appropriation.

The findings in this paper demonstrate the importance of examining geographical patterns of different phenomena, including organic farming. There are implications here too for debates on the (re) regionalisation of food systems and the emergence of regional food networks, in which in theory at least 'alternative' models of food provision can play a key role. A basic premise of regional food networks is that the production, processing, retailing and consumption of food are organised on a regional basis. The two regional case studies of organic farming presented here call into question models that conceptualise food systems as bounded regional spaces. In keeping with more relational approaches to regionalisation and the idea that regions condition and are conditioned by specific sets of factors as 'regional spatial assemblages' (ALLEN and COCHRANE, 2007), this paper has shown how different factors combine and coalesce in specific ways in different regions to explain spatial agglomerations. In the case of organic farming the over-riding importance of demand provides a key explanation for regional differentiation but this is understood in combination with other factors. Adopting a more relational view of the region and regional food networks helps therefore to explain hybrid patterns of organic input sourcing and supply chain marketing. More in-depth regional studies of organic farming are needed to help unravel the complexities involved in its longitudinal development and to further interrogate the relative importance of a range of physical, structural and socio-cultural factors and combinations that form particular regional assemblages as dynamic, relational expressions of regional differentiation.

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**Figure 1: Key factors leading to different local / regional concentrations in organic farming**

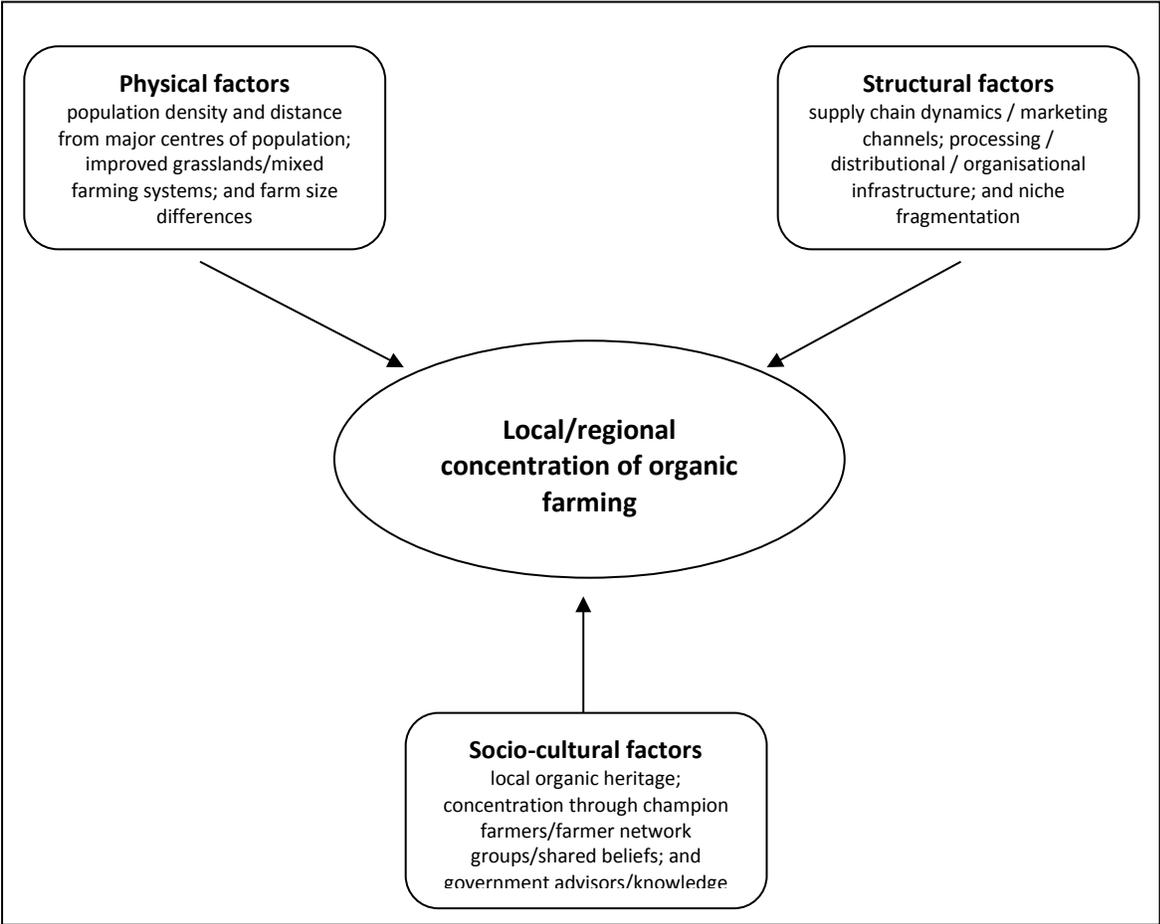


Table 1 Importance of organic farming in the four case study counties

<i>County</i>	<i>Organic farms</i>	<i>% of England and Wales</i>	<i>Organic area</i>	<i>% of England and Wales</i>	<i>Area in organic conversion</i>	<i>% of England and Wales</i>
Ceredigion	109	2.9	8799	3.0	3995	4.9
Pembrokeshire	124	3.3	8837	3.0	3545	7.7
East Sussex	86	2.3	8452	2.9	1104	1.3
West Sussex	63	1.7	6148	2.1	2756	3.4
Totals	382	10.2	32236	11.0	11400	17.3

Source: Based on data supplied by the Organic Standards Branch of Defra

Table 2 Indices of food relocalisation for selected counties in south east England and south west Wales

<i>County</i>	<i>Production index</i>	<i>Rank</i>	<i>Marketing index</i>	<i>Rank</i>	<i>Index of food relocalisation</i>	<i>Rank</i>
East Sussex	12.6	5	42.1	29	27.3	14
West Sussex	20.8	10	25.7	14	23.2	12
Pembrokeshire	21.3	11	63.9	43	42.6	26
Ceredigion	30.1	20	56.3	38	43.2	31

The production, marketing and food relocalisation indices can vary between 1.6 and 100.

Source: RICKETTS-HEIN et al. (2006)

Table 3 Indices of marketing concentration in the two study regions

<i>Marketing outlet Region</i>	1	2	3	4	5	6	7	8	9	10	<i>Overall index</i>
South East England	0.27	0.10	0.08	0.08	0.11	0.14	0.07	0.00	0.13	0.01	0.74
South West Wales	0.16	0.01	0.00	0.10	0.14	0.45	0.06	0.00	0.03	0.04	0.71

- |   |                       |    |                           |
|---|-----------------------|----|---------------------------|
| 1 | Direct marketing      | 6  | Marketing cooperatives    |
| 2 | Independent retailers | 7  | Catering                  |
| 3 | Supermarkets          | 8  | Public sector procurement |
| 4 | Wholesalers           | 9  | Other farmers             |
| 5 | Abattoir/processor    | 10 | Livestock markets         |

Table 4 Indices of marketing concentration for selected individual businesses

<i>Marketing outlet Business</i>	1	2	3	4	5	6	7	8	9	10	<i>Overall index</i>
SWW1	.02	.20	.00	.00	.00	.20	.58	.00	.00	.00	0.42
SWW2	.00	.00	.00	.00	.03	.90	.00	.00	.00	.07	0.82
SWW3	.00	.00	.00	.00	.80	.00	.00	.00	.20	.00	0.68
SEE1	.00	.50	.00	.00	.24	.24	.00	.00	.02	.00	0.37
SEE2	.95	.00	.00	.05	.00	.00	.00	.00	.00	.00	0.91
SEE3	.00	.07	.70	.23	.00	.00	.00	.00	.00	.00	0.55

Table 5 Indices of geographical dispersion in the two study regions

<i>Region</i>	<i>0-30 mins</i>	<i>30-60 mins</i>	<i>Over 60 mins</i>	<i>Overall index</i>
<b>Outputs</b>				
South East England	0.53	0.09	0.38	0.81
South West Wales	0.33	0.13	0.53	0.83
<b>Inputs</b>				
South East England	0.36	0.20	0.40	0.70
South West Wales	0.51	0.08	0.42	0.61

Table 6 Contrasts in the development of, and key factors affecting, organic farming in the two study regions

<b><i>South west Wales</i></b>	<b><i>South east England</i></b>
<i>Socio-cultural factors</i>	
Organic legacy of the 1970s	Main growth since the 1990s
Organic from the outset	Conventional farmers converting to organic
Strong 'neighbourhood effect'	Minimal 'neighbourhood effect'
Presence of 'champion' farmers	Absence of 'champion' farmers
<i>Physical factors</i>	
Generally smaller farms	Generally larger farms
Relatively distant from population centres	Relatively close to population centres
Weak local/regional demand	Strong local/regional demand
<i>Structural factors</i>	
Development of an organisational infrastructure	Lack of an established organisational infrastructure
Focus on national marketing channels	Focus on local marketing channels

## Endnotes

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<sup>i</sup> A niche market is a small, specific and well-defined segment of the market that specialises on a specific product or service. Thus organic farming can be described as a niche market within the wider agricultural industry.

<sup>ii</sup> Direct marketing, independent retailers, supermarkets, wholesalers, abattoir/processor, marketing cooperative, catering, public procurement, other farmers and livestock markets.

<sup>iii</sup> None of the 43 businesses reported selling any organic produce internationally