International Food and Agribusiness Management Review Sustaining Supply Chain Relationships for Co-operative Success: The Case of South Devon Organic Producers Co-operative (UK)

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Manuscript Number:	IFAMR-2020-0062R1				
Full Title:	Sustaining Supply Chain Relationships for Co-operative Success: The Case of South Devon Organic Producers Co-operative (UK)				
Article Type:	Case study				
Keywords:	agriculture; co-operative; farmer; organic; supply chain				
Secondary Keywords:	Q12: Micro Analysis of Farm Firms, Farm Households, and Farm Input Markets Q13: Agricultural Markets and Marketing * Cooperatives * Agribusiness Q15: Land Ownership and Tenure * Land Reform * Land Use * Irrigation * Agriculture and Environment				
Abstract:	Co-operatives play a vital role in supplying various goods and services in the UK, as well as in other parts of the world. In the past twenty years co-operatives have become important players in modern organic food supply chains, providing small-scale farmers with access to knowledge and markets, alongside opportunities to scale up their production. This teaching case is developed from qualitative interviews with current and former members and employees from the South Devon Organic Producers Co-operative (SDOP), an award winning organic vegetable grower co-operative based in South Devon (UK). The case is supplemented with interviews with key managerial personal at the SDOP's main stakeholder Riverford Organic Farms Limited. The case explores how the relationship between SDOP and Riverford is the key to understanding SDOP's participation in the organic food chain.				
Corresponding Author:	Adrian Raymond Bailey, PhD. The University of Exeter Exeter, Devon UNITED KINGDOM				
Corresponding Author E-Mail:	a.r.bailey@exeter.ac.uk				
First Author:	Adrian Raymond Bailey, PhD.				
Order of Authors:	Adrian Raymond Bailey, PhD.				
	Jeff Jia, PhD				
	Hao Dong, PhD				
	Tomas Sparano Martins, PhD				

Title Sustaining Supply Chain Relationships for Co-operative Success: The Case of South Devon Organic **Producers Co-operative (UK)** First Author and Contact Author Dr. Adrian R. Bailey **Affiliation and Address Senior Lecturer in Management** The University of Exeter Department of Science, Innovation, Technology, Innovation, and Entrepreneurship (SITE) **Streatham Court Rennes Drive Exeter** EX4 4PU UK Email Address and Phone Number a.r.bailey@exeter.ac.uk (w) +44 (0)1392 722523 (m) +44 (0)7528 285879 **Second Author** Professor Jia Fu **Affiliation and Address Professor of Supply Chain Management University of York York Management School Freboys Lane**

```
York
YO10 5GD
Email Address and Phone Number
fu.jia@york.ac.uk
(w) +44 (0)1904 325308
Third Author
Dr. Hao Dong
Affiliation and Address
Research Fellow
The University of Southampton
Centre for Applied Science in Project Management (CentasPM)
Department of Decision Analytics and Risk (DAR)
Highfield Campus
Southampton
SO17 1BJ
UK
Email Address and Phone Number
H.Dong@soton.ac.uk
(m) +44(0)7889 222550
```

Fourth Author

Dr. Tomas Sparano Martins

Affiliation and Address

Professor of Marketing

Univesidade Federal do Paraná

Department of Business Administration

Av. Prefeito Lothário Meissner, 632 - 2º andar - Jardim Botânico

Curitiba - PR

80210-170

Brazil

Email Address

tomas.martins@ufpr.br

Abstract

Co-operatives play a vital role in supplying various goods and services in the UK, as well as in other

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JEL Codes

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Acknowledgements

We acknowledge the access and time provided by members and staff at SDOP and Riverford. We also acknowledge the support of Omer Aziz Bhatti (University of Exeter MSc International Management student 2014-2015), who conducted two of the early interviews with the lead author. Bhatti's enthusiasm for organic farming was the impetus to develop this research. We are grateful for funding from the Newton Mobility Grant 'Developing Sustainable Agricultural Supply Chains: Building Capacity for Executive Training and Supply Chain Research with Co-operative Managers' with Pontifical Catholic University of Paraná, Brazil.

Sustaining Supply Chain Relationships for Co-operative Success:

The Case of South Devon Organic Producers Co-operative (UK)

3 CASE STUDY

Introduction

This case study explores the challenges and opportunities facing co-operatives that are anchored in a supply chain relationship with a dominant focal customer. The case begins by exploring the context of organic production in the UK and the challenges for small scale organic farms. The proceeding section presents a creative fiction, blending data from farmer interviews to explain the origins of the South Devon Organic Producers (SDOP) co-operative. The case then explores the development of a buyer supplier relationship through the historical development of Riverford Organic Farms Limited and SDOP. The case concludes by exploring the supply chain relations and challenges faced by SDOP.

Organic production in the UK

Converting to organic production can be a value-added strategy for small farms, even though some of the economic benefits are offset by higher labour costs than conventional agriculture. At the end of 1996, there were approximately 50,000 hectares of organic land in the UK, with fruit and vegetables accounting for 5% of this total. In 2016 the amount of organic land and land in conversion to organic had risen to 507,900 hectares, of which just

¹ House of Commons (2001) *Select Committee on Agriculture Second Report: Organic Farming URL* https://publications.parliament.uk/pa/cm200001/cmselect/cmagric/149/14905.htm [accessed by authors 9 November 2017]

2.38% was under fruit, nut and vegetable production.² In April 1997, there were just 828 organic farms in the UK,³ rising to 3,695 agricultural producers in 2016.⁴ The current trend, in line with all commercial farms in the UK, is for organic farms to increase in size.⁵ The trend is most pronounced in fruit and vegetable production, with supermarket retailers preferring to deal with fewer, larger suppliers. In 2014-15, vegetables constituted one of the most popular organic categories, accounting for 7.9% of the total UK organic market.⁶ The challenge for small producers is to remain competitive by finding ways to scale up to serve this market.

Scaling is a very important yet daunting task for small producers. Scaling up requires that local produce is sold through regional, national and even global markets. The challenge for small organic producers is that, in serving non-local markets, they find it difficult to replicate the advantages generated through direct sales to local consumers. Local food has become synonymous with alternative food discourses that champion short supply chains for their reduced environmental impacts and positive social and economic contributions to local communities. In contexts where there is popular consumer support for organic local food, demonstrating the economic, environmental and social benefits of non-local supply is an important consideration for farmers seeking to scale up. In addition to the challenges of maintaining a meaningful connection with distant consumers and demonstrating the

² Department for Environment, Food & Rural Affairs (2016) *Organic Farming Statistics*, 18 May URL: https://www.gov.uk/government/statistics/organic-farming-statistics-2016 [accessed by authors 9 November 2017]

³ Ibid.

⁴ Ibid.

⁵ Soil Association (2016) Organic Market Report, accessible at https://www.soilassociation.org/media/5644/sa-organic-market-report-2016.pdf;

⁶ Soil Association (2016) Organic Market Report, accessible at https://www.soilassociation.org/media/5644/sa-organic-market-report-2016.pdf; Lobley, M., Reed, M., Butler, A., Courtney, P., & Warren, M. (2005). The Impact of Organic Farming on the Rural Economy in England [Final Report to DEFRA].

- 1 sustainability of supply, farmers seeking to scale up are faced with high costs. What follows
- 2 is the story of how one group of farmers attempted to meet these challenges.

The birth of a co-operative

You are the proud owner of 40 hectares of land in the South West region of the United Kingdom.⁷ Over several years of producing beef cattle, sheep and a few fodder crops, you have come to realise that you cannot maintain your preferred lifestyle of working full-time on your farm. Since purchasing the farm, you have had to undertake undesirable off-farm employment to supplement your meagre farm earnings. The options for diversification and adding value to your existing farm outputs are limited. There are high entry costs associated with alternative activities, such as diversification into food processing or developing local markets for your produce. When you are not worrying about how to pay your bills, you often reflect that conventional farming damages the environment. You would like to farm in a way that is healthier and more sustainable. As you approach your fortieth birthday you are looking to provide for your retirement so that you can continue living in an area that you have grown to love since a child.

You are reasonably well educated with a diploma in agriculture, although your agricultural skills and wisdom far exceeds your ability to articulate what you know. You would like to be considered as a success by farmers in your locality, but you realise that profitability is not the only way to gain the respect and social approval. A number of different motivations have now led you to look for opportunities to combine environmental and economic sustainability.

⁷ The following fictive narrative is a composite of several interviews with different farmers.

 One evening you attend a meeting of local farmers in a traditional English public house. You gaze through the smoke filled lounge and view a gathering of farmers, some of whom you recognise as small scale livestock farmers. Over the far side of the room are some farmers who seem to know each other, you later find out that they come from large-scale farms. Some of the farmers are tenants leasing land, others own their land and quite a few both own and rent land. You recognise a few faces from your school days, but most of the farmers are strangers. Taking a seat, you listen to an entrepreneur named Guy Watson from Riverford, who invites you to join a co-operative to grow organic vegetables to supply his growing business. Guy is a neighbour whom you have known from your school days. You have grown a few vegetables on your farm in the past, but not on a large scale. Listening to Guy you are not convinced that your land is suitable and no-one in living memory has commercially grown vegetables in his region.

The whole proposal feels quite risky, yet a neighbouring farmer says that he has had success growing cabbages and swedes for Riverford and that he is going to give it a go. You have little understanding about how co-operatives work and you have never heard of the International Co-operative Alliance (ICA) Values and Principles⁹, but you decide to take a chance. To supply vegetables you will need specialist machinery, cold storage, transportation, knowledge, labour and access to markets; none of which you have. Guy promises that the co-operative will provide all these necessary resources. You need to buy share capital in the new co-operative, so your next call is to your bank to arrange a loan. You calculate that you might need around £15,000, which feels like a large risk for your small farm.

⁸ Riverford Organic Farms (2011 – date of publication), formerly Riverford Organic Vegetables (1986-2010).

⁹ ICA (2015) Guidance Notes to the Cooperative Principles. International Cooperative Alliance. https://www.ica.coop/sites/default/files/publication-files/ica-guidance-notes-en-310629900.pdf [accessed by authors 15 July 2020]

The case now goes on to describe the supply chain relationship that was created between Riverford and SDOP (Figure 1). This relationship has existed for over 20 years and exists as a success story of how a co-operative can help farmers add value to their outputs and sustain ways of life that they value. Co-ops nurtured by focal companies embody challenges, compromises and contradictions, but can be mutually beneficial for both parties.

<INSERT FIGURE 1 HERE>

Riverford Organic Farms Limited

John Watson took a lease on the Riverford Farm in 1951 to start his life as a dairyman. He married shortly afterwards and raised a family of five children who were nurtured in the culture of home produce and family meals around the kitchen table. The youngest son, Guy Watson, was educated at Oxford University with a first class degree in Agriculture and Forestry Sciences and subsequently acted for a short time as a management consultant in New York. He returned to Riverford in the mid-1980s to grow organic vegetables for a burgeoning local market. Nearby is Totnes, the town famous for the Dartington Hall Trust, an institute established in the 1920s to educate people in the relationship between ecology and economy. Since 1990, the Trust has been the home of Schumacher College, which attracts people seeking alternatives to mainstream capitalist production and consumption. In this context Guy found a ready market for his produce. In 1987 the land was certified as organic and vegetable sales amounted to £6,000.

The Riverford business grew rapidly through the early 1990s supplying supermarkets, wholesalers and local customers. Supermarket buying practices, however, resulted in high

- levels of rejected produce, lots of waste and little or no relationship with the end-consumer.
- 2 In 1993, dissatisfied with buyers' unethical practices, Guy transformed the Riverford
- 3 business model into a doorstep box delivery scheme, imitating neighbours Tim and Jan
- 4 Deane who had pioneered this method of direct supply two years previously.
 - With direct supply proving successful, Riverford was unable to meet demand from its own farm. There were few local organic vegetable growers and very little certified organic land to rent or buy. The alternative of importing organic produce would leave Riverford overly exposed to fluctuating exchange rates; international imports would also be a bad fit for a brand that championed environmental sustainability. The problem of how to scale up local production was solved by setting up a co-operative of local farmers in 1997.
 - According to Guy Watson, government incentives and self-interest were important drivers in establishing the SDOP:
 - I think the truth of it is, because somewhere along the line I heard that there was this European money available [...] and I wanted to get my hands on some of it [...] If it hadn't fitted in with what I wanted to do, I don't think it would have got very far, but that was, I think that was the kind of seed that kind of [...] gave me a bit of momentum to move initially.
 - The co-op would supply Riverford with the organic produce it required and the story of local farmers would create an attractive marketing proposition to environmentally conscious customers.
 - To serve wider markets using the doorstep delivery model, Riverford needed to create economies of scale. This was achieved in 2002 with the creation of a delivery franchise model. In 2015, the initial investment for a 5-year new franchise contract cost £12,000, and a

 £5,500 training fee plus taxation, which would cover the essentials including branded clothing, personalised stationery, display equipment, an accounting package, access to Riverford's bespoke extranet system, marketing materials, and demographic data relating to the contracted territory. The management service fee for the franchisees was 3% of sales. Table 1 indicates the financial returns expected for franchisees.

By 2015, Riverford operated a total of four farms in the West, East and the North of England, and one in France. However, Riverford's strategy of developing regional farms and packhouses (i.e. distribution centre with light processing facility) resulted in limited success. The duplication of costs across the sites coincided with the suppression of consumer demand for organic produce as a result of the 2008 financial crash. The downturn in UK organic sales was mirrored at Riverford (see Figure 2).

<INSERT FIGURE 2 HERE>

The volatile profitability of Riverford (see Figure 3) reflects high levels of investment into the business, which has produced remarkable growth in turnover over the past 15 years. In 2017, Riverford delivered approximately 47,000 boxes of vegetables/fruit every week across the UK, with around 60,000 households across the country. Many of these customers also purchase meat and dairy products as additions to their box.

<INSERT FIGURE 3 HERE>

Riverford names SDOP as one of only a few co-operative suppliers. It sources pineapples from a Togolese co-op consisting of 300 farmers, certified as fair trade through the organic trading organisation ProNatura. A previous supply relationship with an informal co-operative in Motril (Spain) broke down, because the co-op were 'administratively incompetent' (Riverford Manager 1). The only other co-operative connection to Riverford is through its farm in France, which benefits from membership of a machinery ring and buying group operated by Cavac in France.¹⁰

South Devon Organic Producers (SDOP) Co-operative

SDOP is a well-established co-operative of farmers based in South Devon and South East Cornwall, growing organically and sustainably' that has found a way to scale. 11 The coop was registered on 15th July 1998 as an Industrial and Provident Society and it was recently awarded Vegetable Grower of the Year (See Figure 1). 12 In 2015, the co-operative consisted of 12 farmer members, with 9 active farms, cultivating approximately 1,129 hectares of land to produce a wide range of organic vegetables and livestock (Table 2). SDOP is one of the largest organic producer co-operatives in the UK, growing over 40 types of vegetables (200

¹⁰ http://www.coop-cavac.fr/ [accessed by authors 9 July 2020]

¹¹ SDOP homepage at: http://www.southdevonorganic.co.uk/

¹² https://www.hortweek.com/vegetable-grower-year-winner-south-devon-organic-producers/freshproduce/article/1425650 [accessed by authors 5 September 2019]

- varieties) throughout the year. The rotation pattern followed by Riverford and SDOP was
 described by Riverford Manager 2:
- It is just a very simplistic rotation [...], which would be three years red clover grass lay. Then we would break that and grow vegetables for two years.

 Probably starting off the first year, preferably with a brassica or a crop that is more fertility hungry to make use of the nitrogen and then follow it with a less hungry crop. Ideally after two years it would then go back into lay for three

<INSERT TABLE 2 HERE>

years.

 Scaling up is challenging for organic vegetable producers in South Devon. Obtaining sufficient land, is difficult for a number of reasons. First, high land values (£17,000 - £30,000 per hectare in 2016). Second, due to large land holdings by Crown Estates and Church Commissioners, land rarely comes onto the market to purchase. Third, very little rental land becomes available on long term leases. Fourth, little certified organic land is available on short term lease. In addition to land scarcity, small-scale farmers cannot afford to invest in specialist equipment such as refrigerated transport and storage, which are essential if they are to supply large retailers or distributors.

SDOP provides advice about how to convert existing farm land to organic status and provides a wide range of supply chain services to its members, charging a 4.1% levy on all sales by farmer members to Riverford, which pays for the overheads of the co-operative. In a

good year, the farmers will receive back their share remaining in the levy fund. There are seven main benefits that SDOP provides for member farmers (Table 3).

<INSERT TABLE 3>

The supply chain relationship explored

Buyers and suppliers collaborate to achieve shared goals within supply chains. The type of collaboration can vary from case to case and can take weaker or stronger forms. Weak collaboration tends to exist where there is unequal power within the supply chain, with relationships characterised by compliance and coercion. Strong collaboration, in contrast, is characterised by partnerships built upon reciprocity and trust. So the questions in this case relate to the type of collaboration that exists between SDOP and Riverford. To what extent are they collaborating? What benefits result from the collaboration? To explore these questions the case first explores the supply chain operations.

SDOP and Riverford operations

The supply chain relationship between SDOP and Riverford can be represented in a simple diagram (see Figure 4), however this masks a complex set of operations and social relationships. Riverford signs an annual purchase contract with SDOP. Prices are negotiated, but SDOP is typically a price taker rather than a price maker. Collectively, SDOP is the largest supplier to Riverford, yet SDOP lacks supplier power, not only because it has been

separated from the Riverford founder-owner (explained below), but because its only alternative markets are small (i.e. farm gate sales).

<INSERT FIGURE 4 HERE>

 The annual contract is converted into a weekly crop plan by Riverford listing the quantities of each vegetable required over a 12 month period. The crop plan is then utilised by the SDOP manager to create a crop programme for the farmer members of the cooperative, which tells them the amount, type and variety of each vegetable to plant. The crop programme uses average yields and growing times to produce the weekly deliveries required by the crop plan. The crop programme has to take account of the various organic crop rotations of the farmers that are required to maintain the fertility of the soil.

Generally, member farmers will supply Riverford directly with perishable produce on the same day as it is harvested, utilising the farmer's own transportation or that rented from the co-op. Alternatively, perishable crops can be stored on some of the farms in cold storage and delivered to Riverford the next day, which allows for greater utilisation of labour and equipment on the day of harvest. For non-perishable crops (i.e. root vegetables), SDOP provides some basic processing (i.e. washing and grading) to prepare vegetables for cold storage. The main cold storage facilities are located at an SDOP member's farm located near to the Riverford packhouse. Stored crops are delivered by farmers to Riverford, which makes up the contracted orders throughout the year.

On receiving deliveries from farmers, Riverford takes over any further processing, packaging, logistics and marketing. The contract between SDOP and Riverford obliges

 Riverford has the obligation to purchase those vegetables at the agreed price. If a market can be found for surplus produce, Riverford will purchase this and reward the farmers; although the farmer's share of the price will often be below that of the contracted produce. The supply contact between SDOP and Riverford protects farmers from price fluctuations in the organic vegetable market. Similar to all other pre-priced future goods agreements the contract reduces the supply risks for SDOP and Riverford, yet it prevents farmers gaining extra premiums when market conditions are favourable. On occasions when SDOP cannot meet the contacted volumes of produce, due to bad weather or other unexpected causes, Riverford will source from other organic growers to complete their orders; the SDOP farmers are not penalised in these situations, but Riverford takes a view about the reason for shortfalls and may opt to prevent certain SDOP farmers from growing certain crops, or even bar individual farmers from supplying them in the future. These decisions are agreed in negotiation with the co-op, although in these circumstances the co-op is in a weak bargaining position.

SDOP separation from Riverford

In this case both buyer and supplier were pioneered by Guy Watson, which means that the relationship between the two entities is more complicated than a simple relationship between a principal and an agent. Guy Watson (Riverford) was the co-founder and chair of the newly formed SDOP. For a number of reasons, however, it was later decided by mutual consent to gradually sever the relationship between SDOP and Riverford.

First, SDOP members struggled to accommodate the individual *entrepreneurial* culture that Guy Watson embodied within their democratic governance structure. Faced with

 strong leadership by a single member, on occasions the farmers needed to express to Guy:

"you can't do this, because we've all put our money into it and we need to have our say you know" (Farmer 4). SDOP members found their voice with support from a specialist Dutch organic grower who was brought in shortly after start up to provide specialist field support for the novice growers. The manager at the time described the specialist as "a very strong character" and "he was the strongest voice for the members" (SDOP Manager 1).

Second, the *imbalance in scale* between Riverford and SDOP meant that there were considerable differences in support for the co-op. At the start, Riverford was growing the largest area of organic produce on its own farm and had provided proportionately more capital and administrative support than the other SDOP members. A former SDOP manager recalled the early days of Riverford's involvement in the co-op from the Riverford perspective:

you know it's one member one share, so you know Riverford would only have one vote whereas somebody who is only planting two acres has one vote as well. [...] Riverford [...] a huge organisation quite capable of running everything themselves if they wanted to, [would say] "why should we pay as Riverford", you know, "for these overhead costs for everybody else when we've got all these structures. We can do it!" (SDOP Manager 1)

Third, the *conflict between buyer and seller interests* created tensions within the cooperative. Riverford was seeking to improve standards of production at SDOP and impose quality controls to meet rising customer expectations of organic produce. It was thought to be less costly and more effective for Riverford to impose standards through the SDOP contract, rather than seeking to emphasise quality through membership of SDOP. Several farmers

 disliked the greater disciplines imposed upon their operations, which required increased costs; for example, increased labour costs associated with improved weed control.

To defuse the conflict of interests Guy Watson began a three year process of withdrawing his membership from SDOP in 2013, severing the close connection between Riverford and the co-op. The advantages and disadvantages of the decision to uncouple Riverford and SDOP are subject to varied interpretations. The SDOP Manager 4, argues that the separation was a mistake given that the two organisations need to work closely together. Even before the final separation in 2015, Farmer 4 argued that "Riverford could do with having somebody to liaise a lot more with farmers and to see what farmers need". From the Riverford perspective there was less scope for conflict in the relationship, with advantages of having a more clear-cut buyer-supplier relationship.

Regardless of the separation, SDOP is still considered by Riverford as their main supplier. According to Riverford Manager 3, "they will still be one of our, if not our biggest supplier, even if we pretty much [...] doubled in size". Nevertheless, Riverford also buys from other suppliers from overseas regions including Spain, Italy and France. The price, amount and type of vegetables that Riverford is accessing through other suppliers is impossible for SDOP to control, primarily for reasons of climate and soil conditions, which do not enable the SDOP farmers to compete on quality when growing similar crops. In addition, Riverford Manager 3 admitted, the main focus of Riverford is marketing over growing, which means Riverford and SDOP have different ideas around how to develop organic farm production. For example, SDOP may be able to maximise production by growing large cauliflower heads, but Riverford customers demand small heads in their boxes; one could argue that this is limiting the productivity of the land, but whether this is wasteful is debatable if fewer heads are wasted in consumer kitchens.

 From Riverford's perspective, being supplied by a co-operative is a better way to sustain high-quality organic agricultural supplies than dealing with individual small scale farmers. However, it is not to say there are no concerns. Discussing the failure of co-ops, Riverford Manager 3 suggested, "most of them in the UK failed because of greed and basically people not willing to really trust and work collaboratively with each other...but saying that, they [(i.e. the members of SDOP)] do still seem to hang together."

SDOP negotiations with Riverford

Riverford and SDOP have been working closely as supply chain partners, but they do not always agree on the way to achieve their mutual interests. By virtue of its relative size and monopoly over SDOP's route to market, Riverford has a much stronger negotiating position than SDOP in setting prices, delivery volumes and in many other decisions. Some farmers from SDOP claim that they could negotiate higher prices from other vegetable buyers from the East of England, although they admit that Riverford provides the most convenient and cost effective route to market. One of the factors that both helps and hinders SDOP is the knowledge that Riverford obtains about the costs of production by growing vegetables on its own farms. Riverford's knowledge of the cost structure and estimated margins of SDOP farmers leaves the farmers with very limited space to negotiate the price. The price offered by Riverford is calculated by considering the costs of production, but with more support SDOP farmers could improve their efficiency, the quality of their produce and profitability.

Due to the power imbalance, relations between individual SDOP farmers and Riverford have reached breaking point. Some farmers have resigned their membership of SDOP following disputes and have since accessed alternative markets. According to SDOP

 Manager 4, one member farmer is no longer allowed to supply Riverford because of issues with the timing and quality of produce arriving at the packhouse. In some other cases, farmers have found some of the Riverford personnel difficult to get on with because, they felt that the buyer-supplier relationship is too commercially driven and they were not being given enough credit. Issues of personal trust, consideration and recognition are important in sustaining the SDOP-Riverford relationships at the level of the individual farmer. For example, expressing disappointment, Farmer 1 commented that "I've never ever been mentioned as a grower on Riverford website." It is important to remember that supply chains are comprised of people with emotions and complex needs for belonging, recognition and acceptance by others.

The buyer power of Riverford is greater than SDOP, but it is not absolute. At certain times, particular farmer suppliers can exercise *countervailing power* due to the criticality of the resource at their disposal and the scarcity of that resource in the market. As an organisation with autonomy and independence (one of the seven ICA principles), SDOP are not controlled by their buyer entirely and farmer members seek to utilise their supplier power when it is greatest to negotiate with Riverford. For example, Farmer 1 noted that when there is a shortage of supply, Riverford is more likely to pay more in the absence of substitutes. For example, during a period of heavy snowfall Riverford was unable to source vegetables from other parts of the country. Farmer 5 described that "[w]e had to cut all our cabbages...which was all cut by Riverford workers, which I never paid for". Riverford paid for the labour because it was the crucial Christmas period, when consumer expectations are at their height and failure to deliver can result in irreparable damage to the brand. The farmer made a high level of profit as a result of savings on labour costs and by virtue of being able to sell produce in excess of the agreed delivery volumes. Some SDOP farmers have greater power because of the service they provide, as one Riverford manager explained:

 there's one guy in particular [...] he's got an awful lot of cold storage, he's by far and away the biggest member in the co-op and actually it's important that he stays onside and we have a great relationship with him, but at times it's infuriating because actually the cold stores, they're twenty years old they're not potentially well maintained, so actually that's exposing us to a level of risk.

6 Riverford Manager 3

It is beneficial that Riverford and SDOP find a balance of interests that keeps both parties within a relationship of trust, with each party anticipating the needs of the other over multiple growing seasons.

One response to SDOP calls for support since 2015, is Riverford's adoption of a crop walker (i.e. an agronomist). The crop walker provides advice to SDOP farmers on the quality of the growing crops throughout the season and advises farmers on when to harvest crops to fulfil their orders. This has greatly reduced the number of substitutions that Riverford needs to make to its advertised box contents, boosting consumer satisfaction. The relatively weak bargaining position of SDOP was nevertheless revealed in this mutually beneficial arrangement, because although SDOP were prepared to pay for this service from sources of grant funding, Riverford insisted on paying for the service and selecting the personnel for the role. Quality control is a key priority for Riverford as a market orientated retailer, which explains why they sought to control this critical resource. Therefore, collaboration often results in competition around the control over resources. When co-operatives collaborate it is important to maintain the fourth ICA Principle of *autonomy and independence*, as Cooperative Manager 4 stated: "[Riverford] kind of like to think that they have a bit of power over us, and we don't want them to have power over us really, we are quite happy being in our own company without them telling us what to do."

 As Riverford grows bigger and develops more complicated management structures and processes the concerns of SDOP farmers have changed. For example, a common perception is that it has become more challenging for farmers to negotiate on prices with Riverford:

The staff and the top management now are mostly recruited out of the supermarket supply system. And instead of having Guy's high moral ethics, they are hardnosed businessmen, and they're trying to squeeze the price down at our end to increase their margin, because if they put the price up to the customers that will reduce total sales. They want sales up and price down with supplies.

11 (Farmer 9)

Another issue that is becoming more significant for some of the more environmentally conscientious SDOP farmers, is the perception that there is more waste being generated by Riverford's policies. To meet customer demand for more convenient and aesthetically appealing vegetables, Riverford has adopted more strict processing standards in the picking and packing process. Washing root vegetables before packing, for example, reveals blemishes that leads to higher rates of rejection. Previously customers were involved in the co-creation of environmentally sustainable outcomes as they washed, peeled and chopped around soiled and blemished root vegetables to minimise waste in their own kitchens. In washing root vegetables, Riverford effectively relieved their customers of this labour, but created more waste in the supply chain as a result. The marketing orientation of Riverford makes it increasingly difficult for SDOP farmers to negotiate for their own vision of sustainable production.

Challenges faced by SDOP

Dynamics within the SDOP membership

It should come as no surprise that individual famer members have different interests and ideas, which lead to personal irritations and even disputes on occasions. The challenges for SDOP are multiple (Table 5):

<INSERT TABLE 5>

Further co-operation between SDOP staff and member could prove challenging given their different interests. SDOP Staff 1 argued: "I'm not normally backwards in coming forwards I mean that's one of my faults, but erm a lot of people [(i.e. SDOP farmers)] don't like to be told though do they?" More promising, however, "there is farmers that'll ask and say 'oh what do you think about so and so' and you know I just feel it's quite good the fact that they're not ignoring you they will listen" (SDOP Staff 1).

The integration of economic, social and environmental missions

Co-operatives have hybrid identities and missions, which are shaped by their adherence in full, or in part, to the ICA Values and Principles. The seventh Principle, *concern* for community, is inclusive of environmental care. To evaluate the ethical performance of cooperatives, it is important to consider whether economic, social and environmental missions are operationalised as integrated, compartmentalised or even competing goals. In this case there is debate amongst farmers about how sustainable SDOP farms really are.

 Looking back to the origin of SDOP, most farmers describe the economic goals as the main driver of the business. According to Farmer 5, SDOP was set up with the purpose of supporting Riverford to "expand the business", "get more veg" and to "access European funds". However, Riverford's market presence and reach, achieved through their powerful brand, means that farmers do not have to sacrifice profitability to achieve environmental objectives. In this case, profitability and environmental sustainability are both achieved through the organic method of cultivation. Therefore, SDOP makes a contribution towards the principle of *concern for community* through adopting environmentally sustainable agriculture. For example, only one SDOP farmer irrigates their crops to boost yields. The majority of SDOP members, although not all, show strong and clear interests in environmental improvement through agriculture. Several farmers believe that conventional farming damages the environment and they are convinced that through organic farming they have made a positive impact on the environment.

Being environmentally friendly and protecting bio-diversity, are important goals valued by many SDOP farmers. However, this creates some economic disadvantages for SDOP, especially when competing with its large-scale competitors, which for example, typically sacrifice greater biodiversity in the pursuit of greater intensification. For example, non-organic vegetable producers are not restricted by rotational farming methods and can target investment in machinery and labour to produce crops more 'efficiently'. In contrast, SDOP must grow a diverse range of vegetables in their organic system, which means that individual farms cannot compete through a strategy of specialisation. There are also farmers, mainly those who have failed to see economic returns from organic production, who have returned to conventional methods of farming. For example, one SDOP famer operating a mixed farm has converted from organic milk production to conventional dairy farming, arguing that the environmental benefits of organic milk production were insignificant given

 the low input method of production he adopts. Therefore, there is always the potential in the future for this logic, which minimises the benefits of organic production, to be extended to vegetable growing.

Another way in which the co-operative achieves *concern for community* is through members caring for each other. For example, in the past farmers have suffered illnesses of various kinds and in most cases these famers have protected the co-operative by withdrawing from production ahead of the annual contract negotiated with Riverford. In return, SDOP has kept these non-producing famers in membership throughout their illness and helped them to return to production with crops that are easy to cultivate. Conversations with SDOP Managers 1 and 4 revealed a warm affection for the members and a desire to support them through times of personal crisis.

Relations between SDOP and their staff also reveal a *concern for community*. One SDOP farmer member disclosed that the SDOP staff are:

very good people. I mean when I was ill with cancer one of them they ran [the farm] for me, so you cannot argue with that. So you cannot say that they are poor staff, I don't care what people say, they are very good staff...

(Farmer anonymised)

SDOP farmers treat SDOP staff with different degrees of kindness and with different degrees of inclusion within their family and home life. SDOP Manager 4 spoke about a farm where a farmer, in partnership with Farmer 7, took care of the SDOP workers: "The staff love it there, because he brings out a picnic tea, and in the winter jacket potatoes, and cups of coffee, and really looks after them". Not all farmers, however, extend this kind of hospitality.

 Running in parallel to the differing expressions of care for SDOP staff by the member farmers, there are disagreements regarding the appropriate balance between the ICA Values, Principles and profits. SDOP Manager 4 described, "[s]ome people are naturally very cooperative minded. Some people aren't". The same manager described that some farmers joined SDOP thinking it was merely a "selling marketing group", instead of being motivated by a co-operative ideology. It appears that it can be very challenging to get all the individual member farmers to prioritise the collective interest for the co-operative and the wider community, as a component of farmers' own long term self-interest.

In addition to the challenges listed above, SDOP has to deal with other potential threats. The most challenging is the fierce competition from rival agricultural producers. Small-scaled farmers must find innovative ways to compete with large-scaled, conventional farms, which normally can take advantage of better credit terms, economies of scale and stronger market positions. Farmer 4 suggested that one of the biggest challenges and opportunities of being co-operative is to keep "the small family farm going", which is the basis of preserving the social fabric of rural life in South Devon. To achieve this social goal it is important that SDOP recruits new members to sustain levels of supply to Riverford and to sustain its collective buying power that keeps the costs of production low. Like many other agricultural co-operatives, SDOP has an ageing member profile and has experienced difficulties in attracting new and younger generations into membership. Riverford Manager 3 suggested that "there's one [SDOP] grower under fifty and there's only two of them with succession plans". Farmer 4 explained that "young farmers like tractors and like machinery and so on, but they don't want to get off and pull a vegetable out of the ground, down on the ground with your waterproofs on". This suggests that the key to SDOP maintaining its membership is to invest in mechanisation. Farmer 1, however, blamed the lack of land

 available to young farmers, because "[t]he price of land is ludicrous" and "how can you buy land at nine, ten [thousand pounds per acre]...and make any money?"

Another significant factor is related with the co-operative's lack of financial capacity. Some of this relates to the timing of the contract it negotiates with Riverford. Prices are agreed with Riverford in October taking into account current prices for seeds and plants. By the time the plants and seeds are required six months later, inflation in the cost of inputs eats into SDOP profit margins. If SDOP operated at a larger scale it would be able to negotiate better deals with suppliers and mitigate the worst effects of price inflation. Compounding these dynamics, since the 2008 global economic recession fewer consumers are willing to pay premium prices for organic food. Markets, therefore, are a key limitation on the scale that SDOP can achieve and the social and environmental impacts it can generate.

Finally, on 24 June 2016, the British voted to leave the European Union. The 'success' of Brexit will result in significant changes in many aspects affecting the country and its residents, including farmers. An unstable economy after Brexit may discourage consumers buying high-premium organic food. Leaving the EU will also create greater costs and barriers to access the large European market. In previous years Riverford has sold SDOP produce into mainland Europe in periods where there is surplus production, but this may not be possible in future. With the possibility border restrictions, Brexit could also lead to a shortage of agricultural labour. Vegetable producers in the South West of England are highly dependent upon farm labour from the EU and Brexit is likely to raise issues of how to plant, weed and harvest crops. Last but not least, leaving the EU will prevent farmers from applying for EU subsidies for organic production and other grant funding for machinery. In February 2018, as an outcome of the consultation into extending the Groceries Code Adjudicator's remit, the UK government announced a £10 million fund for the development of farmer co-

- 1 operation and the development of existing farm co-ops. It remains to be seen whether SDOP
- 2 will benefit under this arrangement and also what level of support will exist for
- 3 environmentally responsible forms of agriculture within UK agricultural policies.

Ethical Note

With permission, we name Guy Watson, the founder of Riverford as it would be
challenging to anonymise his involvement in this case. To protect commercially sensitive
data and to respect the terms of informed consent negotiated with SDOP and Riverford, we
limit our case to the years leading up to 2016 and omit more recent data. The farms and

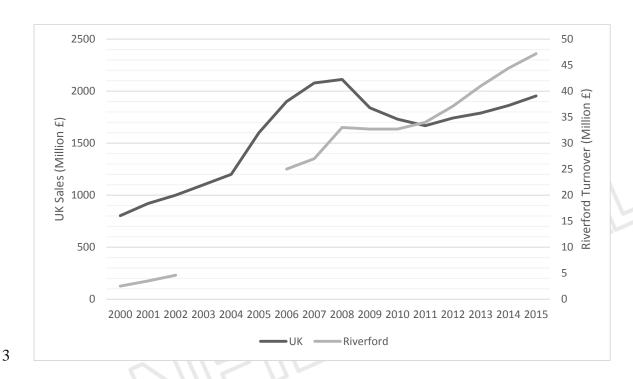
farmers mentioned in Appendix 2, do not directly correspond to the citations made in the

case, to further protect the identity of the SDOP respondents.

1 Figure 1. Timeline showing the development of SDOP and Riverford

		Riverford
	1986	Guy Watson rents organic certified land from John Watson
	1987	Land certified as organic by the Soil Association. First year sales of £6000 through direct supply
	1993	Riverford converts to doorstep delivery of vegetable boxes
SDOP		
Public meeting to recruit farmers	1997	
Registered as an Industrial and Provident Society on 15th July	1998	
boolety on 13 July	1999	Incorporated as Riverford Organic Vegetables Limited
	2002	Delivery franchise begins
First application to EU Fresh Fruit and Vegetable (FFV) grant scheme	2005	
Second application to EU FFV	2010	
	2011	Incorporated as Riverford Organic Farmers Limited
	2013	Guy Watson gives notice that he (i.e. Riverford) is withdrawing membership from SDOP
Third application to EU FFV	2015	
	2016	Guy Watson (i.e. Riverford) leaves SDOP
Vegetable Grower of the Year: Horticulture Week Business Awards	2017	Delivering 47,000 veg boxes to 60,000 households.

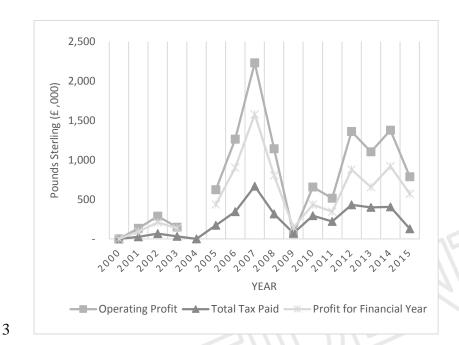
Figure 2. UK Sales of Organic Products and Annual Turnover of Riverford 2000-2015



(Source: Riverford; Soil Association)¹³

¹³ Riverford Annual Reports 1999-2015; Soil Association Organic Market Report 2016. Please note that we do not have access to the accounts for the missing years.

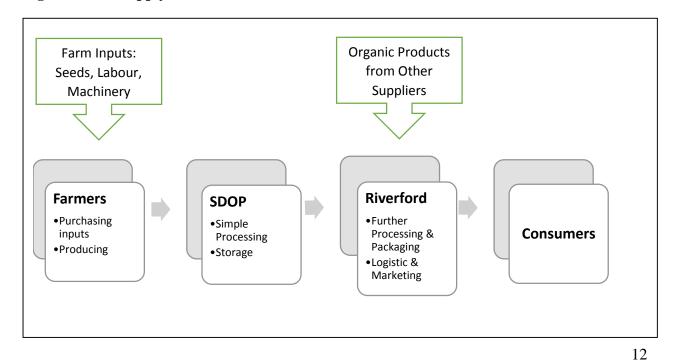
Figure 3. Riverford Profit/Loss 2000-2015



(Source: Riverford)¹⁴

¹⁴ Riverford Annual Reports 1999-2015. We do not have access to the data for the missing years.

2 Figure 4. The Supply Chain of SDOP and Riverford

(Source: Authors)

Table 1 – Expected Net Profits (£) for Riverford Franchisees (cost of goods not shown)

Weekly Box Deliveries	n.250	n.500	n.750	
Annual sales	274,125	548,250	822,375	
Management service fee	-8,224	-16,448	-24,671	
Vehicle costs	-11,983	-23,965	-35,948	
Local marketing	-8,224	-16,448	-24,671	
Wages	-8,800	-26,400	-44,000	
Other overheads	-4,100	-5,850	-8,200	
Total overheads	-41,330	-89,110	-137,490	
Net Profit	£23,089	£39,729	£55,768	

(Source: Riverford)¹⁵

¹⁵ Retrieved from: http://www.riverford.co.uk/aboutus/franchise-with-riverford/earnings-and-investment [Accessed by Author 1st October 2015]

 Table 2. South Devon Organic Producers Farm Overview 2015

Farm	Farmers	Joined SDOP	SDOP Status	Farm Size (ha.)	Organic Land (ha.)	Land Owned (ha.)	Land Rented (ha.)	Type of Farm*	Main SDOP Crops Current and Previous Supply	Interview
A	A1	1997	Retired	113	113	-	113	Vegetable	Brassicas; Carrots; Peas; Potatoes; Salad crops	✓
В	B2 & B3	2001	Active	1,012	121	891	121	Mixed	Brassicas; Beetroot; Cucurbita; Carrots; Cauliflowers; Leeks; Parsnips; Potatoes; Sweetcorn	✓
C	C1	1997	Active	40	40	40	1	Mixed	Beetroot; Brassicas; Broad Beans; Leeks; Runner Beans	✓
D	D1 & D2	1997	Active	40	40	40	1	Mixed	Beetroot; Carrots; Leeks; Cabbage; Kale	✓
Е	E1 & E2	2014	Active	263	231	118	113	Mixed	Brassicas	✓
F	F1	2000	Inactive	113	113	113	-	Mixed	Brassicas; carrots; leeks	✓
G	G1	2001	Resigned	28	28	28	-	Vegetable	Brassicas; Cucurbita; Peas; Runner beans; Salad crops;	✓
Н	H1	2000	Resigned	142	142	142	-	Mixed	Sweetcorn Not known	✓
I	I1	1999	Active	162	162	162	-	Mixed	Brassicas; Beans; Leeks; Potatoes	×
J	J1	2007	Active	194	146	-	245	Mixed	Not known	×
K	K1	2005	Active	142	142	-	142	Mixed	Brassicas; Broad Beans; Potatoes	×
L	L1	2014	Active		120	-	-	Mixed	Brassica; Leeks	*

*Mixed farms combine vegetable production with livestock. The larger farms will also produce cereal crops.

 Source: http://www.southdevonorganic.co.uk/ [accessed 1st October 2015]; Authors' Interviews Data

Table 3: Benefits provided by SDOP to member farmers

Benefit	Explanation	Key Quotes from SDOP Managers (M) and SDOP Farmers (F)
Sharing machinery	Small-scale farmers access specialist equipment that they cannot afford or access locally.	You know the smaller people can't afford the specialist machinery on their own, can't afford to run their own labour - perhaps the biggest member could. (M1)
Cold storage facilities	Farmers are less exposed to rents charged by processors for storage. SDOP pays for space in stores owned by two members.	[In future we would like to] put in a cold store parking bay []. If somebody hasn't got a cold store they can reverse a trailer in at night. (M4)
Lower costs for purchasing inputs	Purchasing seeds, plants and labour. SDOP has a labour pool of seven permanent members of staff, including specialised machinery operators. Initially SDOP maintained a large labour pool of migrant workers, but the overheads were considered a distraction. SDOP is now reliant on outsourced labour from neighbouring farmers who operate labour pools.	Before 2014, Riverford [purchased our seeds.] The first year [SDOP] did it was 2014. [Anon] was buying seeds from all over the world [and] we had no records of orders [] it was very, very difficult to sort of keep accountability. [] I said right we're going to [] buy all of our seeds through [one company at the] same price as we'd been paying direct from the supplier and we'll have order numbers and we'll have a system [] and it did start working to help our cash flow. (M4)
Access to grants and government funding.	Access to the EU Rural Payment Agency's Fresh Fruit and Vegetable Scheme (FFV) to subsidise machinery purchases. To qualify, Producer Organisations must have annual turnover Euro >1,000,000.	now we're on the third programme of five years [] programme three, which took me all of last year to put together, the five year plan is a nightmare. (M4)
Fixed annual price and supply contracts.	Farmers have stronger supplier power as a group. Riverford provides annual contacts to SDOP, which ensures a guaranteed market for the farmers.	The prices are generally quite good [the farmers are] given. [T]hey are [] guaranteed that Riverford will take these crops at that price and sometimes they're lucky, [] if we have a glut they'll take a bit more at that price. (M4)
Financial support	Limited credit arrangements. Credit is sometimes provided by Riverford to individual SDOP members who have encountered heavy losses due to adverse growing conditions.	we pay for [seeds] because we get a better price, but the farmers do not pay for them until they are in the ground [] They have to pay a little for the credit. [] we give them 60 days to pay for their seeds, but after that they have to pay a bit more. (M4)
Knowledge transfer	Farmers share best practice to boost productivity and profitability. Issues of pest control and disease are discussed on farm visits where the effects and results of interventions can be seen first-hand.	[]you don't get things right every time and it's good to know that you know, sharing people's experiences [] and obviously when [] you have got problems and stuff [] it's good to speak through things that other people have perhaps dealt with [] you know in a previous year. (F2)

Table 4. SDOP Sales Figures

Year	Total Turnover (£)	Vegetable Sales (£)	Non Veg. sales (£)
2018-19	1,674,638.00	1,158,978.00	515,660.00
2017-18	1,278,314.00	782,410.00	495,904.00
2016-17	1,871,328.00	1,344,646.00	526,682.00
2015-16	1,724,367.00	1,217,724.00	506,643.00
2014-15	2,209,001.00	1,638,470.00	570,531.00
2013-14	1,775,286.00	1,370,010.00	405,276.00
2012-13	1,313,416.00	939,665.00	373,751.00
2011-12	2,029,448.00	1,442,053.00	587,395.00
2010-11	2,239,153.00	1,654,555.00	584,598.00
2009-10	2,334,123.00	1,655,459.00	678,664.00
2008-09	2,245,904.00	1,537,812.00	708,092.00
2007-08	2,656,307.00	1,985,319.00	670,988.00
2006-07	709,216.00	Not available	709,216.00
2005-06	623,307.00	Not available	623,307.00

Nb. The reported turnover of SDOP to the Rural Payments Agency is augmented by the marginal sales of farmer members (i.e. that the farmer marketed themselves), which are calculated as 10% of the total marketable production of the Producer Organisation.

Table 5: Challenges experienced by SDOP

Challenge	Explanation	Key Quotes from SDOP Managers (M) and SDOP Farmers (F)
Buyer limitations	Riverford has an expanding, but limited market. It is not always able to buy surplus generated by SDOP, although it can sometimes sell surplus to wholesale markets.	[] everyone wanted to grow more stuff and you know Riverford wouldn't take as much as you wanted and there was always internal frictions. (F10)
Variety of supplier demands	 Riverford requires many types and varieties of vegetables from SDOP. SDOP farmers compete with each other to grow the more profitable crops. SDOP managers do not use allocation as a lever to discipline farmers. Farmer disputes around allocation are resolved through negotiation, prioritising those with the most suitable soil for a particular variety. 	Riverford would like [SDOP to use allocation to discipline farmers], because it is what happens with foreign coops apparently. [] And they would like us to be more like that [] one reason why it doesn't happen is that when it was first set up with Guy on the leadership team, they were friends, so they don't want that bully boy tactic, they just like to keep it friendly. (M4)
Divergent environmental values	Some SDOP members are more willing to invest in environmental improvements than others.	I want it to be a profitable farm [] but also I want it to be, you know, a good farm environmentally as well. So it's trying to find the balance [] for a long time this farm didn't earn enough money to make improvements to be able to make it better if you know what I mean. (F4)
Attitudes towards state subsidies	Some SDOP members look to the government to support the organic movement and argue there are insufficient incentives for farmers to become organic or remain organic. In 2015, the government provided a £30 per ha. premium to organic farmers.	[] it's not a great amount of incentive for farmers to do very much. So a lot of farms didn't join it (F5)
Efficiency	 Riverford provides few incentives for farmers. Lifestyle entrepreneurs are willing to sacrifice profitability to achieve work-life balance. SDOP managers find it difficult to incentivise farmers to work in a more 'professional way' (F5). Farmers that use labour, cold storage and machinery ad hoc, disrupt farmers who meticulously plan their resource usage, creating tensions. 	Becoming more professional would mean farmers planning their production with more attention to detail, improving the quality and the efficiency of the production, accepting new technologies (e.g. mobile cold storage) and having a greater focus on the profitability of each crop. (paraphrased M4) Unless you hit them in the pocket, you are not really going to make any difference" (M1)

Response to Reviewers Comments

Manuscript number: IFAMR-2020-0062

Title: Sustaining Supply Chain Relationships for Co-operative Success: The Case of South Devon

Organic Producers Co-operative (UK) Editor's decision: Minor Revision

We were grateful for the reviews, although it appears that Reviewer #2 had no comments to make from the email we received. Please pass on our thanks and gratitude to the reviewers for their helpful comments.

Reviewer #1	Revision Response	Location
1. The abstract ends with "The case considers" which is incomplete;	We have deleted the incomplete sentence.	Abstract
2. In page 3, under the section of 'Riverford organic farms limited', it needs to also provide the information of other coop suppliers; are these coops similar or different from SDOP?;	Details have been added of the other co-operatives and former relations with co-operatives that we know of through our interview data. It should be clear that the Pineapple Co-op is different to SDOP, both in terms of the proximity to Riverford and the number and type of farmers.	p. 8
3. In page 9, line 8, please explain 'labour gangs'; line 16, what is PO short for?	Labour gang changed to Labour pool. PO is Producer Organisation – now made clear.	Table 3 & Table 4
4. In page 12, line 12, please also provide information on SDOP's other customers;	Now amended to show the only other customers that SDOP have are farm gate sales. This was already in the paper on p.16, but we include it here for clarity.	p. 11
5. In page 16, the first paragraph of 'The separation of Riverford as a member from SDOP' is better to move to the front, as readers should aware it is one member of	We have now indicated to the reader that SDOP and Riverford are separate entities and indicated that the details of the separation will be dealt with below. We have also changed the sub-titles for clarity:	pp. 11
the coop at the front;	SDOP and Riverford operations SDOP negotiations with Riverford	p.10 p.15
6. Some missing figures for Figure 1 and 2?;	Unfortunately we do not have the missing data and Riverford have not provided access to this information. We have put a note to indicate this for each Figure in the footnote.	FN 13 & 14
7. Please check the other overheads (n.250) for Table 1 which doesn't look right; also the net profits doesn't match with the figures (not the total sum);	Thank you for noticing the errors in our table. We are very grateful for your close scrutiny of the paper. We have checked with the original data and found the totals for Other overheads was incorrectly stated for n.500 and n.750. We have also amended the title of the table to indicate that the net profit excluded the cost of goods, which is why the totals do not seem to sum.	Table 1
8. In Table 2, please insert a note for 'mixed', mixed of what?;	Now added a note to the table. '*Mixed farms combine vegetable production with livestock. The larger farms will also produce cereal crops.'	Table 2
9. The quotation for question 7 is not appropriate, as the students	Quotations are now removed from the teaching case.	
	The quotations have been included in the paper.	p.19 & 17

will not be able to know it in advance; 10. A time plan should be included in teaching note, one issue could be the case is quite long and it may takes more time	We agree that the case is long, but we do not believe that providing teaching plans is warranted. Every teacher will want to utilise the case in different ways and to create their own intended learning outcomes for sessions and	
than normal lecture to deliver the contents.	even modules.	
11. Finally, formatting issue with the last reference.	Formatting now corrected with hanging indent and capitals used for journal title.	Teaching Note p.13

Reviewer #3	Revision Response	Amendment
1. The text can be reduced and made more crisp to hold attention of the readers by representing some of the text in tables and figures.	We agree. The case is a long document and we have taken your advice to include more of the information in tabular form.	
1a. Development stages of Riverford and SDOP in timeline diagrams	We have created a composite timeline diagram as requested.	Figure 1
1b. Benefits provided by SDOP to member farmers - table (optional)	We have now produced a table to replace the text.	Table 3
1c. The supply chain relationship discusses many significant challenges/concerns	The section 'Supply Chain Relations' is now just one paragraph and sets up a more logically structured set of sub-titles that follow. We mention that Riverford and	p.10 p. 11
which I felt needs to be highlighted. Again, a Table might be better	SDOP separate to alert the reader that they are two separate entities.	
mg. coo sector	We have now moved the material that concerns operations into the section marked as 'SDOP and Riverford Operations' to group this material together.	pp.10-12
	We hope that this is now more logical and we have avoided repetition in the document.	
1d. The challenges section can be subdivided into individual challenges, co-op challenges, and retailer/aggregator (Riverdale) challenges. They can also be subgrouped as production challenges, operational challenges, and so on.	We agree that this categorisation is an important one. However, we have already included your suggestion as a student centred learning activity (Q2 in the Teaching Note). Asking student to subdivide the case into the categories you suggest is a good way for them to show their understanding of the case. Moreover, we felt that subdividing the paper further risks losing the narrative flow that makes the paper engaging.	p.3 (TN)
Apart from these, the authors may try to make the writing a little crisp to hold attention	We have now reduced the Teaching Case word count by 554 words to 8,304 words in total.	
	We have now reduced the word count in the Teaching Note by 163 words to 4339 words in total by transferring the quoted material into the Teaching Case.	

COMENDENTIAL

The Case of South Devon Organic Producers Ltd

Teaching Note

1. Relevance

This case introduces students to South Devon Organic Producers Ltd (SDOP), a UK agricultural producer co-operative. The case explores the supply operations and management of SDOP and its relationship with Riverford Organic Farms Limited (Riverford), one of the UK's largest specialist online organic food retailers. Understanding the complex historical development of these interconnected cases is important preparation for students and researchers who wish to consider the factors that need to be taken into consideration by decision makers within agricultural supply co-operatives that are reliant upon a dominant anchored customer.

The first part of the case begins by narrating the origin of SDOP from a farmer's perspective through a creative fiction. The case then introduces the development of the Riverford and SDOP business models. In the second part, the supply chain relationships and production system are introduced. The events leading up to the de-coupling of Riverford from the co-operative are explored through the withdrawal of the pioneer entrepreneur Guy Watson from SDOP. It is important for students to understand the mismatch in scale between SDOP and Riverford and the effects that the unequal power relations have on negotiations between the two organisations. In the third and final part of the paper we consider the challenges faced by SDOP, with a focus on how the co-operative members regard the relationship between economic, social and environmental objectives.

Through the questions provided in this teaching note, we invite students to position themselves as consultants that have been hired to advise the co-operative manager and board of directors on how to overcome a number of challenges – most notably the decline in SDOP turnover over several years. The case concludes by arguing that co-operative managers need to think not just about profitability and competitiveness, but also about the values that facilitate successful co-operation between the members of the co-operative.

2. Target audience and position of the case

The case deliberately avoids utilising complex theories, so that a wide variety of learners can access the case. Some threshold knowledge would help students to access the case, chiefly: a basic understanding of environmental sustainability; a definition of organic agriculture with a basic understanding of organic cultivation practices; supply chains; environmental impacts of food supply; and the International Co-operative Alliance (ICA) Co-operative Identity Statement, and the ICA Values and Principles. The case can be used as a way of introducing students to co-operatives as a specific supply chain actor, but also cooperation more generally irrespective of organisational type within a supply chain context. The case is particularly suited to postgraduate and executive education where more in-depth exploration of the questions can be undertaken.

The case explores two perspectives. The upstream co-operative case has a heterogeneous membership of farmers that creates challenges for the manager of the co-operative. The downstream retailer is creating value with consumers, which creates challenges for managing relationships with the co-operative. The case clearly demonstrates how a network perspective is required to understand how the strategy of the co-operative has developed in the past and might develop in the future.

The network presented in the case allows students to consider the perspectives of different supply organisations and actors within those organisations. This makes the case particularly suitable to classroom roleplay where different students can be allocated to specific roles and asked to consider particular scenarios.

In regard to summative assessment, the case lends itself to coursework assignments that require students to explore the empirical case through the lens of the theories that have been introduced by the tutor: for example - business models (Mazzarol et al 2018); cooperative learning pedagogies (Johnson and Johnson 2009); embeddedness (Wu and Pullman 2015); social capital (Herbel et al 2015); stakeholder management (Mitchell et al 1997). There is scope to focus attention on specific aspects of the case that would need further support from relevant literature. For example, assessment of the environmental sustainability of organic production compared to conventional food supply chains (Coley et al 2009), or a focus on co-operative networks and innovation (Novkovic and Holm 2012). There is scope for marketing students to explore future scenarios for SDOP and the likelihood of success

associated with different strategies. The case can also be used by students to explore the TOWS method of strategic analysis (Weihrich 1982).

3. Teaching objectives

The intended learning objective is to enable students to develop their co-operative management skills by exploring how a co-operative functions in a consumer driven agricultural supply chain. The SDOP business model could be analysed from perspectives of supply chain relations (Bijman and Hendrikse 2003), contract farming (Prowse 2012) and co-operation (Pathak et al 2014).

4. Questions for class discussion

The following questions are listed in order of increasing complexity.

- 1. What benefits has SDOP created for farmers?
- 2. What are the main challenges facing the SDOP manager? Consider the relations between: (i) individual farmer members; (ii) individual farmers and Riverford; (iii) SDOP and Riverford.
- 3. To what extent do you agree that SDOP and Riverford are collaborating as supply chain partners? Which areas of collaboration are the most important to sustain their future relationship?
- 4. Riverford has scaled up its business to move away from a local model of supply, to a nationwide supply structure. To what extend do you believe that scaling up is more or less environmentally sustainable in this case?
- 5. Why might some farmers resist a strategy of scaling up SDOP? Think about how different farmers might respond to proposals to: (i) increase the number of members; (ii) invest in new technology associated with precision agriculture (e.g. satellite guided tractors) or improved cold storage; (iii) developing their brand; (iv) diversifying their customer base.
- 6. Put yourself in the position of the SDOP manager role. (i) Which customers and stakeholders demands are the most critical to respond to? (ii) Why might your farmer members find it challenging to respond to these demands? (iii) In what areas do you want to support the interests of Riverford and why might this create tensions with the members of SDOP? (iv) How will you manage the tensions created by your collaboration with Riverford?

7. If you were advising SDOP on its future strategy, what are the top three objectives you would establish?

6. Provisional answers

1. Seven main advantages are listed in the case study. There are a number of direct benefits including: sharing machinery buying power on farm inputs; access to market – i.e. the collective contract with a major buyer Riverford; lower costs from economies of scale – i.e. sharing of machinery, simple processing, hiring skilled labour and cold storage facilities; professional management dealing with cross-farm issues and with the buyer; branding and marketing advantages. Students may also wish to consider the potential indirect benefits to farmers. For example, the SDOP contract with Riverford addresses two predictors of psychological distress in farmers (Fraser et al 2005). First, it reduces *fluctuating and uncertain economic projections*. Second, the solidarity involved in co-operative working could be argued to reduce *self-reliant cultures*.

2.

- (i) Farmer members are heterogeneous and have different farm businesses, which means they seek different benefits from SDOP and their demands upon SDOP may be more or less urgent. For example, for some farmers the SDOP supply contract only represents a third of their annual turnover, which means that their own farm resources can be switched to other productive activities if SDOP machinery or labour is not available. For other farmers, growing for Riverford is one hundred per cent of their activity, which means that the availability of SDOP resources are always critical. The urgency of different farmer's demands on SDOP may be related to a lack of planning due to competing activities, or it may be related to the consequences for the farmer if a request for assistance is not met. When cooperative members seek different benefits, they often have a different vision for the strategy of the co-operative, which means that co-operative managers have to be fair, but also ambidextrous in dealing with the unique concerns of each member.
- (ii) Individual farmers have dyadic relations with Riverford through their delivery of produce and receipt of payments. SDOP may not be aware of communications between individual

farmers and Riverford, which create tensions within the co-operative, especially if these result in changes to agreed schedules or a change in Riverford's relationship to SDOP. For example, a farmer may deliver his/her weekly production to Riverford on a single day, rather than staging this delivery over five days as was agreed in the crop plan. Maintaining the discipline of farmer members is a major challenge for the SDOP manager, because farmers are accustomed to high levels of autonomy.

- (iii) SDOP has to seek to benefit all its members. Riverford would like to develop a special relationship with specific members that it values for the quality and quantity of their produce. Therefore, it is important for the co-operative to encourage Riverford to treat SDOP members equally, even though they are sometimes viewed unequally by Riverford on the basis of the value of their supply. For example, Riverford may wish to have one farmer to meet all of its demand for a highly profitable vegetable, based upon a consistent record of delivering high quality produce. Conversely, SDOP will wish to spread the planting across several farms to satisfy the demands of their farmers for higher profits. There are good horticultural reasons for spreading planting across different soil types and micro-climates within an organic system. Some farms have capacity to rotate within their landholding and can produce the similar volumes of the same vegetable every year, but other farmers do not have insufficient landholding to achieve this.
- 3. SDOP and Riverford are collaborating in the following areas: agronomy; production planning; pricing (although Riverford has the main say); storage; some limited processing (i.e. washing root vegetables); marketing (e.g. Riverford use SDOP farmers on their website and although overshadowed by Riverford, SDOP do benefit from Riverford's media presence); ad hoc credit provision; Riverford lease office space to SDOP; education (e.g. Riverford organise packhouse tours for SDOP members). SDOP and Riverford are competing around pricing, crop allocation (e.g. Riverford grows many higher value crops on its own farms and will express views about which SDOP farmers ought to grow certain crops), quality (e.g. some SDOP farmers would like Riverford consumers to accept soiled produce).
- 4. Research has demonstrated that the distribution of vegetables to the end-consumer is the most carbon intensive part of the Riverford supply chain. Riverford acknowledges that national distribution is more carbon intensive than the short-supply chains associated with local veg box schemes, but research at the University of Exeter has demonstrated that the local supply of certain crops is more carbon intensive (Coley et al 2009). For example, it is

less carbon intensive to import fruit and vegetables grown in unheated glasshouses in warmer EU countries than to source fruit and vegetables grown locally in heated greenhouses in the UK. Non-local sourcing appears to be less carbon intensive in terms of on-farm carbon emissions for many crops, but this needs to be balanced against the carbon emissions incurred in national distribution. Riverford argue that if customers purchased all their food through their box scheme, it would be more carbon efficient than purchasing their requirements from several different retailers (i.e. more retailers means multiplying transportation emissions). In terms of cultivation, it would appear that organic production is less carbon intensive than conventional production, however, students will need to consider that organic production typically excludes herbicides and therefore requires more mechanical weeding than conventional farming with the potential for higher tractor utilisation and fossil fuel consumption. Comprehensive research to establish the carbon emissions of organic versus non-organic vegetable production has yet to be conducted. One way to decarbonise organic vegetable production would be to introduce electric vehicles charged by renewable energy for cultivation and distribution.

5.

- (i) More members are welcomed by SDOP because they: provide for the future supply base; bring new ideas on how to develop the co-op; spread the administrative burden; diversify the growing base (e.g. different soils will grow different crops); improve the quality of crops; spread costs; utilise underused resources (e.g. labour and machinery); and provide longer periods between rotations leading to less pests and pathogens and greater yields. Taking on new members may create problems for individual farmers, such as: creating competition between members for crop allocation, machinery, labour and admin support; introducing more heterogeneity means potentially longer decision making periods. If the membership becomes too heterogeneous then individual members may perceive fewer benefits and their engagement with the co-operative will diminish. Therefore, the type of members being introduced will be a key consideration.
- (ii) Some members on larger farms would welcome further SDOP investment in technology, but others prefer to invest independently of the co-op so that they are not obliged to share this resource. SDOP staff would welcome investment in technology to make their work less physically and mentally demanding. However, some small farms, especially those required to harvest their main crops by hand (e.g. in the case of runner beans), would benefit less from

investment in technology. At the SDOP Annual General Meeting in 2015, some farmers expressed concerns about the marginal gains associated with precision agriculture when compared to traditional methods. In relation to the utilisation of machinery, SDOP could improve their productivity if they controlled all aspects of cultivation. For example, currently individual farmers prepare the soil for cultivation, but it would be more efficient for SDOP to perform this work to advance consistency and quality. Finally, investment in sunk costs, e.g. cold storage, creates issues around the location of the resource. Host farms are perceived to control these resources, which is a potential source of tension (e.g. host farms tend to have preferential access).

- (iii) SDOP has not invested significantly in developing a brand. It relies upon the power of the Riverford brand and while it is not seeking to serve another customer there is no incentive to develop the SDOP brand. The main incentive to strengthen their existing brand is to attract new farmer members.
- (iv) Taking on new customers would require SDOP to invest in refrigerated transport, new storage and processing facilities, and add to its administrative costs in the form of taking on a marketing manager. Taking on a new customer may enable SDOP to negotiate better prices with Riverford. This strategy does entail risks Developing new customers might alienate Riverford and damage the close partnership that exists. It is unknown how Riverford would respond to SDOP supplying its competitors. In taking on a new customer SDOP would need to expand production significantly to continue to supply Riverford. Although Riverford has been diversifying its supplier base, it has remained loyal to SDOP due to the marketing advantages of having a unique supply base that is local to its main packhouse.

6.

(i) First, the needs of vegetable consumers ought to be a key consideration for SDOP as it seeks to provide high levels of service to Riverford. Becoming more market orientated will lead to less freedom for individual farmer members and will require increased control by the manager and the executive in directing their farm activities (Bijman et al., 2011). It will be important that the membership is committed to a strategy of becoming more market orientated (Chechin et al., 2013). Consumer needs are communicated by Riverford to SDOP, but SDOP could anticipate future consumer demand by conducting its own market research with consumers. SDOP currently experiments with new types and varieties of crop and asks

Riverford to adopt these. Second, Riverford is a key customer that needs to be given a high priority to protect SDOP against competition from organic vegetable producers in other parts of the UK. If SDOP fails to fulfil its crop plan, Riverford will be unlikely to commit to similar volumes in future plans. Third, SDOP has been heavily reliant on agricultural subsidies for its existence since start-up, which means that it needs to stay informed about government policies and sources of funding associated with a variety of grant schemes. Fourth, local residents are key stakeholders that need to be assured of the benefits of organic vegetable production. For example, if SDOP adopted irrigation, then the impact on local water users would need to be considered. Attention to local residents is always going to be a key consideration for farmers.

- (ii) Becoming more market orientated would present SDOP with several challenges. First, individual farmers find it sufficiently challenging to keep on top of their daily tasks and typically do not have the resources or motivation to invest in the research and development (e.g. crop trials). This is true for small farms and also for large mixed farms where the large variety and volume of activities mean that organic vegetable growing has to share priority with other tasks. Second, making a business case for further investment in marketing is a challenge for the SDOP manager, when farmers already indirectly benefit from Riverford's investment in consumer feedback and research. Third, farmers can find it emotionally challenging to engage with Riverford. As a farmer, often working in isolation, it can be psychologically challenging to receive criticism or demands for improvements (Hounsome et al 2012).
- (iii) The SDOP manager understands the advantages of delivering the crop plan as specified by Riverford. This means delivering the correct quantity and quality of vegetables on each day of the year. The manager will seek to impose discipline upon SDOP farmers in relation to when they can utilise SDOP staff, machinery, transportation and cold storage. Therefore, activities that benefit SDOP as a whole may not always be perceived by individual farmers to be beneficial at a farm level. For example, a specific famer may have a free day to plant crops, but it is more important for SDOP staff to support another farmer to plant in order to fulfil the crop programme.
- (iv) Farmer members may perceive that the SDOP manager may be serving the interests of Riverford more than their own interests when collaborating closely. Collaboration creates tensions between farmers when they perceive that some farmers are benefitting unequally

from collaboration. The SDOP manager needs to communicate the mutual benefits that arise from fulfilling the Riverford crop plan to the members. Staying in close contact with all the farmers is essential. This removes any suspicion that the interests of the SDOP board members are those that are being given the highest priority. To create legitimacy as a loyal staff of the co-operative, the SDOP manager must innovate new initiatives with Riverford that benefit the farmer members equally.

- 7. There are no right or wrong answers, but each objective will have consequences that students will need to justify. A number of options could be considered:
- (i) Re-launch the labour pool and utilise profits from this activity to cross-subsidise investment in new machinery. Vegetable producers in the UK have been reliant upon migrant workers from Eastern Europe and it is not known how the UK exit from the EU will impact the availability of labour. In a post-Brexit context subsidies may not be available and new incomes streams will be welcomed by the farmers. The profits will need to cover the costs of administration of the labour pool.
- (ii) Partner with other organic vegetable producers in the UK to increase the buying power of SDOP. It will not be feasible to provide benefits to non-local vegetable producers (e.g. sharing machinery and labour), but there could be opportunities to purchase other farm inputs (e.g. seeds, plants and administration costs). If other vegetable producers are delivering to the Riverford packhouse and their vehicles are leaving empty, it may be possible to distribute SDOP produce elsewhere utilising the capacity of those vehicles.
- (iii) Bring Riverford into membership of SDOP. Multi-stakeholder co-operatives are more common in mainland Europe as a way of negotiating fair prices and addressing the negative externalities associated with operating in a capitalist market (Gonzalez 2017). Bringing Riverford into membership presents various opportunities. For example, it is becoming more common for agricultural co-operatives to include investor members to help them scale up and meet suppliers' demands. Students would need to consider the pros and cons of sacrificing some control rights to Riverford in order to achieve greater investment (Chaddad and Cook 2004).
- (iv) Bringing SDOP staff into membership could result in increased motivation to work, especially if profits are shared with staff. Having staff represented at SDOP board meetings may result in improved efficiency. It will be challenging to incentivise staff members to join

the SDOP board. Differences of opinion between famers and staff could also create new tensions in the board room.

(iv) SDOP could offer a whole service to local farmers with organically certified land. When farmer members become ill, SDOP has proved that it can run their entire vegetable production for them. Therefore, it is conceivable that SDOP could expand their staff and utilise their assets more effectively by taking on contracts with non-member farmers.

7. Teaching Aids

http://www.southdevonorganic.co.uk/ (SDOP webpage)

http://www.riverford.co.uk/exe/aboutus/ (Riverford webpage)

<u>https://www.youtube.com/watch?v=SKEyBSGeq5M</u> (Video introduction to Riverford where employees talk about the company ethos and vision)

<u>https://player.vimeo.com/video/38979983</u> (Video of the Riverford business explained by the Executive Chairman, Guy Watson)

https://www.youtube.com/watch?v=Ldx2HhwT8cs (John Watson, the father of Guy Watson, talks about the history of Riverford Farm and how he came to realise the benefits of organic farming)

https://www.thenews.coop/129339/sector/riverford-organic-farmers-switches-employeeownership/ (An article explaining the transition of Riverford to employee ownership in 2018)

8. Follow up statement

Due to ethically imposed restrictions, the case employs primary data collected between June 2015 and April 2016 augmented with some more recent secondary data. Since 2016 there have been a number of developments that will be of interest to the students.

Riverford Ownership Transfer

On 8th June 2018, majority ownership of Riverford was passed to the employees of the company. Guy Watson (now Guy Singh-Watson) retains a 26% share and maintains an active role in the business. The remaining 74% of the company is owned by the Riverford Employee Ownership Trust. The United Kingdom Financial Act (2014) provides for various tax benefits for owners who want to transfer their property to an Employee Ownership Trust (EOT). Sales of shares into an EOT are exempt from capital gains tax when the EOT is given a controlling interest and has rights to the majority of profits. Students may wish to debate how employee ownership will impact the relationship with SDOP.

SDOP Cold Storage Innovations

In 2017-2018 Riverford adopted a pick-by-light system, investing upwards of £750,000 to transform their packing operation. This innovation enables Riverford to efficiently add the extra items that customers purchase into their vegetable boxes by moving the boxes to the pickers; previously the pickers had to walk great distances to retrieve the items for each order. One outcome of this change was the recycling of the previous Riverford cold store by SDOP members, leading to the creation of their own cold storage facilities on their farms. The innovation allows farmers to pick crops and delay delivery into the Riverford packhouse until the following day. It enables SDOP to use labour more efficiently and reduces the number of journeys that farmers make to the Riverford packhouse. Students may wish to discuss what other co-specialised investments could benefit Riverford and SDOP.

Improving Pollination

In 2017, SDOP took delivery of six hives of bees to pollinate crops of courgettes and runner beans. This was a trial and the benefits of the bees will be evaluated by considering the impact on yields.

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Streatham Court, Rennes Drive, Exeter UK EX4 4PU

Telephone +44 (0)1392 722523 Fax +44 (0)1392 263210

Email Web +44 (0)1392 263210 a.r.bailey@exeter.ac.uk www.exeter.ac.uk/businessschool

22nd July 2020

Re: Sustaining Supply Chain Relationships for Co-operative Success: The Case of South Devon Organic Producers Co-operative (UK)

Dear Professor Gunderson,

Please find attached our revisions to the Teaching Case submitted to your journal IFAMR. My fellow co-authors are Professor Jia Fu (Professor of Supply Chain Management), Dr. Hao Dong (Research Fellow, University of Southampton) and Dr. Thomas Martins (Professor of Marketing, Universidade Federal do Paraná).

We are very grateful to two reviewers for their comments and have made every effort to improve the paper. We attach a note showing the revisions that have been made in relation to each set of comments.

Yours sincerely,

Dr. Adrian R. Bailey

Senior Lecturer in Management

A. R. Bailes

The University of Exeter Business School